ABSTRACT

THE EXPERIENCE OF REDUCING ENVIRONMENTAL RISKS IN AN ENVIRONMENTAL JUSTICE COMMUNITY

by
Gabriela Dory

Research on Environmental Justice (EJ) communities has focused on quantitative assessment of environmental hazards and general physical health problems. Little is known about how individuals living in EJ communities perceive their environmental risks and how they reduce environmental risks. The purpose of the study is to explore and describe the perceived environmental risks and the experience of reducing environmental risk among individuals living in an EJ community.

A qualitative and longitudinal design with a descriptive phenomenological method is used to recruit 23 participants living in a known EJ community in the urban area of New Jersey. A total of 43 in-depth interviews are completed, audio taped, and transcribed. Interview transcripts and field notes are the data sources. Data are analyzed to identify the essential structure of the experience within and across cases.

Participants describe their awareness of the environmental pollutions in their community. Facing the environmental risks has elicited a variety of emotional distress. Emotional distress is heightened when they perceive that their concerns are not heard and when personal and community efforts are ineffective to improve the community condition. Yet, from such a life-world has emerged individuals' intentions, that is, individuals' consciousness of effort, to reduce the environmental risk. The essential intentions have been revealed: reducing personal exposure to environmental risks, trying to work with the community to improve environmental conditions, and taking individual action to improve the community. The study has provided new insights into the experience of living in an EJ community. Future research and policy making should focus on strategies that incorporate individuals' perceptions and intentions to develop community specific environmental policy and action plans to reduce the distress of individuals living in EJ communities and enhance individuals' intentions.

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by
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This dissertation is dedicated to my daughters, Charlotte and Audrey so that they may know a future where the environment is respected for its true value, for all people. And to my loving husband, Andrew Lenz who watched our daughters as I spent many hours in the library working; I am grateful for his encouragement and willingness to listen as I discussed my research. This dissertation is also dedicated to my mother, Barbara Dory for her encouragement in my pursuit of higher learning; I am grateful for her presence in my life as a mother, friend and grandmother.

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CHAPTER 1

INTRODUCTION

Despite nationwide air quality improvements since the passage of the 1963 Clean Air Act and its 1970, 1977 and 1990 Amendments, air quality improvement remains a challenge among low income and ethnic minority communities, also known as Environmental Justice (EJ) communities (EPA 2011). The United states Environmental Protection Agency (EPA) defines EJ as "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" (EPA 2010b). An EJ community generally refers to the low-income and minority communities with environmental justice (EJ) concerns.

An EJ concern refers to the actual or potential lack of fair treatment or meaningful involvement of minority, low-income, or indigenous populations, or tribes in the development, implementation, and enforcement of environmental laws, regulations, and policies (EPA 2011). EJ concerns were brought into public debate in 1987 when the United Church of Christ (UCC 1987) published its seminal report on toxic waste and race that claimed siting of hazardous waste facilities was intentionally disproportionately concentrated in communities of low income, low education, with large minority populations.

The EJ movement since the UCC report has grown in different directions, concerning proper environmental management, ethics of waste placement facilities, and creating effective environmental policy inclusive of all people. EJ research has also

expanded in the direction of policy mechanisms and their ability to assess risks cumulatively and quantitatively (Bass 1998, Kloc 2009, Ragas 2011). Although EPA has mandated the consideration of EJ in planning and decision making since the 1990's and specifically in President Clinton's 1994 Executive Order (Wilkinson 1998), a formalized comprehensive EJ strategy and management guideline is still not available. In addition, although EJ communities are identified as 'vulnerable' by the EPA there are no specific policies in place on a national level to protect these areas. Recently, EPA (2011) issued a strategy called Plan EJ 2014 to integrate EJ into EPA's day to day activities with the goal to protect health in communities over burdened by pollution and empower communities to take action to improve their health and environment when they are exposed to environmental risks.

1.1 Environmental Risks

An environmental risk is the involuntary exposure to hazards from the environment, such as pollutants, hazardous emissions, toxins and any harmful substance from the environment including the air, water and soil (Callan and Thomas p. 114). When damage from environmental risks are assessed the hazard and the environmental exposure are determined, which is central to the tools used to assess damage on a national and regional level. The tools for assessing environmental risks used by policy makers, such as the EPA and other decision makers has been risk assessment and risk management.

Risk assessment relies heavily on quantitative data to assess the impact on humans, animals and the environment from environmental risks and most risk assessment tools do not consider other possible influencing factors, such as existing and historical

levels of environmental risks in overburdened communities, the influence of unique weather patterns, or the steps that an individual takes routinely to reduce their personal exposure to environmental risks. Risk assessment tools are also imperfect assessment methods that cannot capture all known sources of pollution in an area and many tools employed by the EPA target know, large sources of environmental risks hoping to capture the most significant impacts (EPA 2005a).

The experience of reducing environmental risks is an important, overlooked factor in assessing environmental risks in EJ communities that is not captured in risk assessment or risk management tools. The daily experiences of residents as they reduce their exposure to environmental risks can signal important risk mitigation strategies which have a large potential for exposure reduction on an individual level. Through an in depth understanding of an individual's experiences in an EJ community it is possible to understand how to improve environmental policy and specifically EJ policy in response to environmental risks.

1.2 The Purpose and Aims of the Study

The overall purpose of this descriptive phenomenological study was to describe the experience of reducing environmental risks among individuals living in a known EJ community.

The specific aims for this study were:

1. To delineate the essential structures of the participant's experience of reducing environmental risks;
2. To delineate each participant's unique experience of reducing environmental risks;

3. To delineate the participant's life-world as the context from which emerges the experience of reducing environmental risk;

4. To identify important factors which facilitate or impede the experience of reducing environmental risks.

CHAPTER 2

LITERATURE REVIEW

The EJ movement since the 1980s has grown in different directions, concerning proper environmental management, ethics of waste placement facilities, and creating effective environmental policy inclusive of all people. Research has expanded in the direction of policy mechanisms and their ability to assess risks cumulatively and quantitatively (Bass 1998, Kloc 2009, Ragas 2011). Although EPA has mandated the consideration of EJ in planning and decision making since the 1990's (Wilkinson 1998), a formalized comprehensive EJ strategy and management guideline has not been developed. Risk Analysis and Risk Management are still the overarching tools that are used by policy makers to determine, assess and control environmental risks in most communities including EJ communities.

2.1 Risk Analysis and Risk Assessment

Central to the notion of environmental risk is risk, which can be defined as a hazard or as a probability or chance of an adverse consequence from a hazard (Merriam-Webster 2012). For the purpose of this research an environmental risk is any hazard or probability of an effect from a hazard that stems from the environment, i.e., soil, water, or air to a human being. The extent of an environmental risk can be determined by the hazard and the extent of the exposure of the hazard (Callan p. 114). In the context of an EJ community, such risks tend to emanate from industrial practices both past and present,

which have been consolidated to a specific area where the hazards may be compounded as multiple sources of pollution come together (Su, 2009; Walker, 2010; Logue, 2011).

Rigorous risk analysis has been conventionally used to address environmental and health impacts of air pollution and other environmental hazards, including risk assessment and risk management (ApSimon 2002, EPA 2011). Policy based on risk analysis has been issued to address the health and environmental risks in EJ communities where residents often face multiple hazards or pollution sources on a daily basis (Su 2009, Walker 2010, Logue 2011). For example, a risk analysis usually initiates from a policy tool focusing on a single environmental hazard then gradually evolves into a more comprehensive tool addressing multiple pollution source impacts, such as cumulative risk assessments and community based risk assessments (Fox 2004, Callahan 2007, Ragas 2011, EPA 2011, Su 2012).

Cumulative risk assessment research is effective in guiding pollution policy (Krieg 2004, Therivel 2007, Callahan 2007). However, most cumulative risk assessment studies are conducted on large regional scales and produce generalized assessments of pollution levels which may not represent localized, concentrated levels of pollution. Air pollution standards are based on large-regional assessments. Data is often lacking or limited for specific higher, concentrated exposure areas such as in an EJ community (Jerrett 2001). In order to overcome this data shortfall, aggregate studies are often conducted on representative areas in a region and such methods negate several possibly relevant factors such as, combined impacts of a pollution source with other nearby sources, sources of pollution which migrate due to constant, repetitive weather patterns,

or the effects of background levels of ambient air pollution, which are often not included (Kloc 2009).

In addition, assuming that all the environmental risk is quantifiable, risk assessment mainly uses measurements to quantify risk (Callahan 2007). It remains uncertain whether the measurements used are able to quantify all the risks. Furthermore, research is lacking to describe how individuals live in an EJ community in the context of environmental risk exposure. As the ultimate goal for reducing the environmental risk is to ensure individuals' health and quality of life. It is important to understand how individuals living in an EJ community manage their daily life to reduce environmental risks. Such an understanding may provide important insights to effectively involve individual human capital as part of concerted efforts to achieve the ultimate goal of the nation's efforts to reduce environment risks and the disparity of environmental burdens in EJ communities.

Existing risk assessment approaches do not, for example, capture the individuals' experience of how they manage their lives to reduce environmental risk (Krieg 2004, Walker 2010). As a result, the effects of the individual human effort to reduce environmental risks are not considered in current existing policies regarding environmental risks. Therefore, it is essential to explore the individuals' experience of reducing environmental risks in an EJ community.

Advances in science and technology such as Geographic Information Systems (GIS) and dispersion modeling allow air pollution risk assessment to be conducted at a much finer scale. However, these tools are expensive to implement and the results are difficult to verify due to a lack of consistent monitoring data and implementation in EJ

communities due to a lack of data on the individual human effort (Bowen 2002, Higgs 2009, Gilbert 2011). It is also questionable if finer scale risk assessments offered by GIS and other newer tools benefit policy implementation as it does not consider the individuals' perspective in terms of the individual's experience of being exposed to the environmental pollution and their experience of reducing environment risk. These tools are incapable of uncovering the effects of the individuals' efforts to reduce environmental risks in EJ communities, which may be the driving force to ensure effective implementation of environmental policy in EJ communities (Bowen 2002, Walker 2010, Turaga 2011).

Qualitative aspects of risk are also difficult to capture in current risk analysis and risk assessment, specifically psychological factors that are associated with risk such as fear, anxiety and stress. Psychological effects of pollution are well documented and have shown to produce somatic symptoms (Lundberg 1996, Bullinger 1989, Marques and Lima 2011). Anxiety and fear which can develop in response to real or perceived environmental risks are potentially important defense mechanisms. Anxiety and fear following nuclear disasters are important factors, which can protect individuals from avoiding similar future risks and are otherwise not captured in risk assessment and probabilistic risk assessment (Tateno and Yokoyama 2013).

In summary, risk assessment which is used to create policy does not account for how an individual interprets air pollution standards or if residents in polluted communities have similar experiences when confronted with air pollution. These personal aspects of interpreting exposure to pollution are important because they determine how effectively residents can react and protect themselves. Without

considering human aspects of reducing environmental risks, risk analysis focusing on large scales and quantification of environmental hazards alone is limited in shaping effective policy and in its implementation to reduce environmental risks in EJ communities (Callahan 2007, NRC 2011, Collins et al. 2011).

2.2 Large Scale Pollution Reduction at a Regional and National Level and the Lack of Policy Consideration among Local Overburdened Communities

Federal Environmental Policy established to protect the environment are numerous including the National Environmental Protection act (NEPA), the Clean Air Act (CAA), the Clean Water Act (CWA), Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), etc. and other large scale policies which are concerned with controlling national pollution levels. States also have the ability to pass more stringent policies if desirable but can choose to simply accept national standards. National and Regional pollution reduction strategies are also the essential strategy helping individuals reduce environmental risks.

The EPA uses the National Air Toxics Assessment (NATA) data to predict pollution concentrations, sources and their risks regionally (US EPA 2005a, Logue 2011). The NATA data is one of EPA's most comprehensive tools for modeling outdoor air toxic concentrations in urban areas, however EPA discourages using the data for localized level health studies and "to identify exposures and risks for specific individuals, or even to identify exposures and risks in small geographic regions such as a specific census block, i.e., hotspots" because of the models acknowledged limitations and accuracy (EPA 2005b, Payne-Sturges et al. 2004). EPA, does support the use of NATA data to more effectively target risk reduction activities, identify pollutants of greatest

concern and to work with communities in designing their own assessments (EPA 2005a), which somewhat contradicts their admission of the data's limitations.

In order to compensate for NATA's limitations, such as its inability to count for all sources of known exposure, supplemental localized modeling tools have been proposed but are also limited due to missing data sources that are estimated (Corburn 2007). NATA is also not reassessed annually but rather every three years with the latest NATA assessment from 2005 and the data is a snapshot of emissions in that year, contributing to another shortfall of this data source. NATA and other similar data sources are beneficial for planning purposes on large, regional scales, unfortunately localized overburdened areas are not benefiting from these tools and the data tool does not benefit individuals as they attempt to reduce their environmental risks.

The EJ community is generally not benefited by national and regional policies based on assessments which do not consider their localized, overburdened conditions (Krieg and Faber 2004). In many instances these policies are failing EJ communities as they allow for industrial development in areas that are already disenfranchised. Accepted land use policy for example, allowed for the development of a chrome plating facility in a poor California community which contributed to elevated air toxic level among residents and children (EPA, 2003). Lejano and Smith also found that incompatible land use policies which allow for industrial facilities to be placed near residential areas routinely produce large aggregations of small, non-dominant environmental air toxins which produce significant elevated levels of risk (Lejano and Smith 2006).

2.3 Environmental Justice Community Impact on Policy Decisions

Due to an historically overburdened and low socio-economic status EJ communities have not had an impact on policies which govern their communities. In their 2009 case study analysis of health risk perceptions and environmental problems in ten areas of concern across Western England, Luria et al. found repeatedly that local communities are excluded from policy planning and implementation when decisions are made about their communities (Luria et al. 2009). The American Lung Administration identified a lack of community involvement in policy decisions as a possible factor in poor environmental risk management in EJ communities and as a result has advocated Community-Based Research (CBR) which has a direct and immediate impact on the community as a method of including residents in policy decision which will affect their well-being (ALA 2011).

In order to encourage community involvement in potential policy that directly impacts their exposure to environmental risks, there is a need to provide better more effective explanations of exposure research results which often affect policy and engage all stakeholders (Leviton et al. 1998). Perhaps the greatest fault in the lack of community based involvement among policies affecting EJ communities' lies in the lack of policy clearly mandating community involvement and the EJ Executive Order which failed to transform the decision-making culture of the EPA (Holifield 2009).

2.4 Multi-faceted Experience of Environmental Risk Reduction

The human aspect of risk reduction is multi-faceted and influenced by many factors. Individuals are often motivated by emotions, and those associated with pollution are often negative such as fear, anxiety or stress. These psychological aspects are generally

not captured in conventional risk assessment or analysis tools which are mechanisms that can validate an experience (Sherif 1991). These psychological aspects may have developed prior to an individual's current experience of a risk, or be a result of chronic exposure and yet directly impact their present experience. They can also further compound social and cultural factors that influence how a risk is experienced.

The psychological effects from environmental risks are also supported in Quality of Life (QoL) literature; noise, dust and pollution have been shown to impact an individual's perception of their well-being (Moser 2009). Furthermore, recent QoL literature has started to account for the importance of non-physical aspects which impact QoL, such as culture, place-meaning (place attachment) and social capital and the degree to which these aspects add meaning to the experience of well-being (Hulme 2008, Cupples 2009, Moser 2009). The QoL literature, however has not specifically investigated experiences of individuals in EJ communities. In addition investigations into QoL tend to concentrate on the quantitative aspects of individuals and communities that impact QoL and have not investigated more qualitative aspects such as the experience of reducing environmental risks (Elliott et al. 1999).

Bickerstaff (2004) found that the residents' experience encompasses social and cultural factors that significantly influence the residents' interpretation of the environmental risks from air pollution. Renn (2003) argued that the cultural context of individuals played an important part of their assimilation of the risk they were confronting; people "transform each message [of a risk] in accordance with their previous understanding of the issue, their application of values, worldviews, and personal or organizational norms, as well as their own strategic intentions and goals" (p. 377).

Culture is also argued as a case specific trait which should be interpreted in context as it occurs in a specific place (Cresswell 2004).

The idea of place attachment and place identity can explain neighborhood attachment in EJ communities and as one factor that prevents residents from leaving polluted areas (Holifield 2009, Lewicka 2011, Atari et al. 2011). Although more commonly referred to in economic terms, moral hazard accurately conveys the acceptance of risk or tradeoffs that people make in the presence of pollution sources in EJ communities. These tradeoffs are coping strategies that assist residents with maintaining routine in their lives amidst the reality of their situations (Atari et al. 2011). Social networks have been shown to be powerful coping mechanisms for individuals and how they endure in spite of environmental stressors (Wakefield et al. 2001, Veenstra et al. 2005, Wakefield et al. 2005).

Social capital, or the relationships and exchanges between individuals, is another factor that has been shown to contribute to the experience of residents in an overburdened community (Altschuler et al. 2004). Social capital has been shown to have a strong correlation with the health of an individual attributable to environmental conditions (Veenstra 2005b, Mohnen et al. 2011). Social capital can be a determinant of vulnerability to risks; low social capital among a group can increase vulnerability if for example that group is not part of a decision making process or other resources seen to protect from the risk (Pelling 1998, 2003; Cutter et al. 2003). Although both social capital and place attachment influence individuals' action toward environmental risks, Wakefield et al. (2001) found that social capital was a greater determinant of action than place attachment.

2.5 Perception and Response to Environmental Risks in EJ Communities

With decades of work for improving quality of life in EJ communities and flourishing EJ grassroots movements, environmental problems persist in most EJ communities (Hipp and Lakon 2010, Gilbert and Chakraborty 2011). Residents still live in these communities and are affected by pollution on a daily basis (Mitchell and Norman 2012). In some instances, these communities have experienced population growth, possibly as some individuals might be attracted to lower housing prices in EJ communities (Baden and Coursey 2002). As a result, there is renewed interest in sociological research that explores the social process and understands the cognitive and emotional experiences of resident's that constitute the social fabric of EJ communities (Northridge et al. 2003, Walker 2010, Lejano and Stokols 2010, Atari et al. 2011).

The use of narrative research has begun to gain significance in exploring risk exposure, particularly in assessing and understanding environmental risks (Moore et al. 2005). Narratives or the stories of people's lives and their firsthand accounts of their experiences have been an important qualitative research method of data collection in the social sciences, particularly in fields such as anthropology, medicine and pedagogy (Moen 2006). Narratives are increasingly employed as a research method in climate change science where researchers are recognizing the need for more qualitative tools to comprehend how individuals and communities interpret climate change information in order to inform more effective policy decisions (Bravo 2009, Daniels and Enfield 2009).

The narrative method has also been combined with other methods to capture both qualitative and quantitative aspects of environmental issues. Wakefield et al. used both in-depth interviews and surveys to capture data on perceived environmental risk and

reaction in an industrialized neighborhood (Wakefield et al. 2001). Of particular interest in this research was the influence of social capital and place attachment in prompting residents to take action as a result of their perceived environmental risks. The study found that the public's understanding of their environmental risks was complex and that social capital was a greater determinant for action than place attachment. The in-depth interview method employed thematic analysis and subsequent categorical evaluation of these issues during data analysis. While the researchers selected participants from the affected community, their goal was to attain a maximum variation of samples and they did not use purposive sampling to attain data on the specific issue of the experience of living in a polluted community or of reducing environmental risks (Wakefield et al. 2001).

Beyond the narrative approach to gathering firsthand accounts of environmental exposure some researchers have explored the 'lived experience' of individuals as a means of gaining more insight into residents' daily lives in environmentally vulnerable communities (Lejano and Stokols 2010, Atari et al. 2011). Lejano and Stokols (2010) define the 'lived experience' as residents' experiences dealing with environmental injury in their communities. In their research on the life of residents near a landfill in a Los Angeles, California community, Lejano and Stokols (2010) found that the residents' lived experiences were multidimensional and more complex than was able to be portrayed through the classic model of risk.

In their study, Lejano and Skokols found that the landfill in the community was not understood in technological terms but rather in relational terms, i.e., residents felt that the landfill was a bad presence in their lives and it evoked complex emotions, such as

feelings of injustice (Lejano and Skokols 2010). While the study successfully captured experiences of residents dealing with a landfill and living in an EJ community, the focus of the study was not purely phenomenological and rather focused on the experience of residents in terms of risk modeling and its effects on policy. The research also did not capture the experiences of residents as they reduced their environmental risks in their community.

In their study of the experiences of residents of a community with a 23 year old 'area of concern,' Atari et al. (2011) found that residents were conflicted with the labeling of their community as an Area of Concern (AOC) and the associated health risks that may be a result of the environmental pollution; as a result of these emotions, the actions of the residents in response to their concerns were through coping strategies (Atari et al. 2011). The research of Atari et al. concentrated on the effects of labeling, such as that of their study community, which was identified as an AOC and the subsequent effects that labeling has on the community and individuals.

Atari et al. extended their research into the effects of labeling from an environmental risk following research by Giddens (1990) who found that people adopt the following coping strategies when a new label is given to their environment: sustained optimism, radical engagement, pragmatic acceptance and cynicism/pessimism (Giddens 1990). In their research, Atari et al. expanded on the stress and coping literature by focusing on sustained optimism, pragmatic acceptance and cynical pessimism (Atari et al. 2011). Examples of each type of coping strategy were found in their research, supporting their theory of responses taken by residents in communities with prevalent environmental risks that were labeled.

The work of Atari et al. (2011) is part of a larger community health study with the goal of uncovering the determinants of health in the subject community. One of the aspects of the study was the daily experience of individual residents, but this was not the primary focus of the work. They begin to investigate the phenomenological aspects of a community and the roles of the individual in the community. However, there was no investigation of the experiences of residents as they reduced their environmental risks. There is a lack of literature in this area specifically concentrating on EJ communities which further investigates the implications for reducing environmental risks on residents' perception and response to environmental risks. Furthermore, there is a lack of research into the policy implications from the experience of reducing environmental risk in EJ communities which identifies the factors which facilitate or impede individual action.

Lejano and Stokols (2010), Atari et al. (2011) and Pluhar et al. (2009) used interviews to capture the experience of participants. The interviews in the Lejano and Stokols (2010) and Pluhar et al. (2009) studies were supplemented pictorially by encouraging participants to express their answers visually though drawings which captured expressions of the participant's attitude towards environmental hazards (e.g. landfills). Pluhar et al. (2009), who engaged children, was able through her participant's drawings to show that children were aware of the negative environmental factors around them even if this was not expressed verbally (Pluhar et al. 2009). Lejano and Stokols (2010) also through interviews and the use of drawings showed that all participants were acutely aware of the waste facility in their neighborhood and that it produced strong negative feelings and connotations which may not have been as strongly expressed in their verbal responses (Lejano and Stokols 2010).

Other sociological research has also explored the social processes of pollution risk exposure and tried to understand the cognitive and emotional experiences of residents' that constitute the social fabric of communities (Northridge et al. 2003, Walker 2010), yet the experience of living in an EJ community, especially how individuals reduce their environmental risks has not been explored. In addition, there is a lack of literature on the underlying processes which contribute to how and why individuals reduce environmental risks. The underlying processes are based on the theory of the importance of locality, moral hazards and social capital in regards to risk perception (Birkerstaff 2004). This research will investigate those multiple contributing factors such as place attachment, place identity, chronic exposure, coping strategies, moral hazards or trade-offs, social capital and how each of these factors shape the resident' experiences in dealing with environmental risks.

In the past two decades, research has revealed that resident perception and response to environmental and health risks in EJ communities are important to empower EJ communities through a flourishing EJ grassroots movement. However, research is still lacking on how specifically residents in EJ communities manage their daily lives to reduce environmental risks in terms of perception, responses, and strategies. In addition, research is also lacking in understanding the cultural, social, economic impact on how residents in EJ communities reduce environmental risks. Only one study by Lejano and Skokols (2010) used a phenomenological stance to investigate environmental risk and how communities can be excluded from legal and policy decisions that affect their well-being. They concentrated on uncovering how incompatible land-use patterns relate with the experience of EJ and place attachment in the classic model of risk.

Atari et al. also investigated the daily experience of residents in an EJ community but like the research of Lejano and Skokols neither study employed a descriptive phenomenological methodology to capture the experience of reducing environmental risks. Atari et al. for example chose to capture a diverse group of residents to obtain maximum variation among respondents regardless of a 'shared experience.' Almost half of the participants that were sampled knew little of the landfill being labeled as an AOC, which was a central focal point of the investigation. The research did not capture a sample of participants with a shared experience, rather those with a common residence. Neither study claimed to use a phenomenological methodology nor to be completing a phenomenological investigation, but rather explored phenomenological aspects of an experience in an EJ community.

In summary, existing literature is lacking in terms of systematic investigation of the individuals' experience of reducing the environmental risks in an EJ community. Using a descriptive phenomenological approach may help to reveal the essential structures of the experience of reducing environmental risks in an EJ community.

CHAPTER 3

STUDY AREA: IRONBOUND, NEWARK, NEW JERSEY

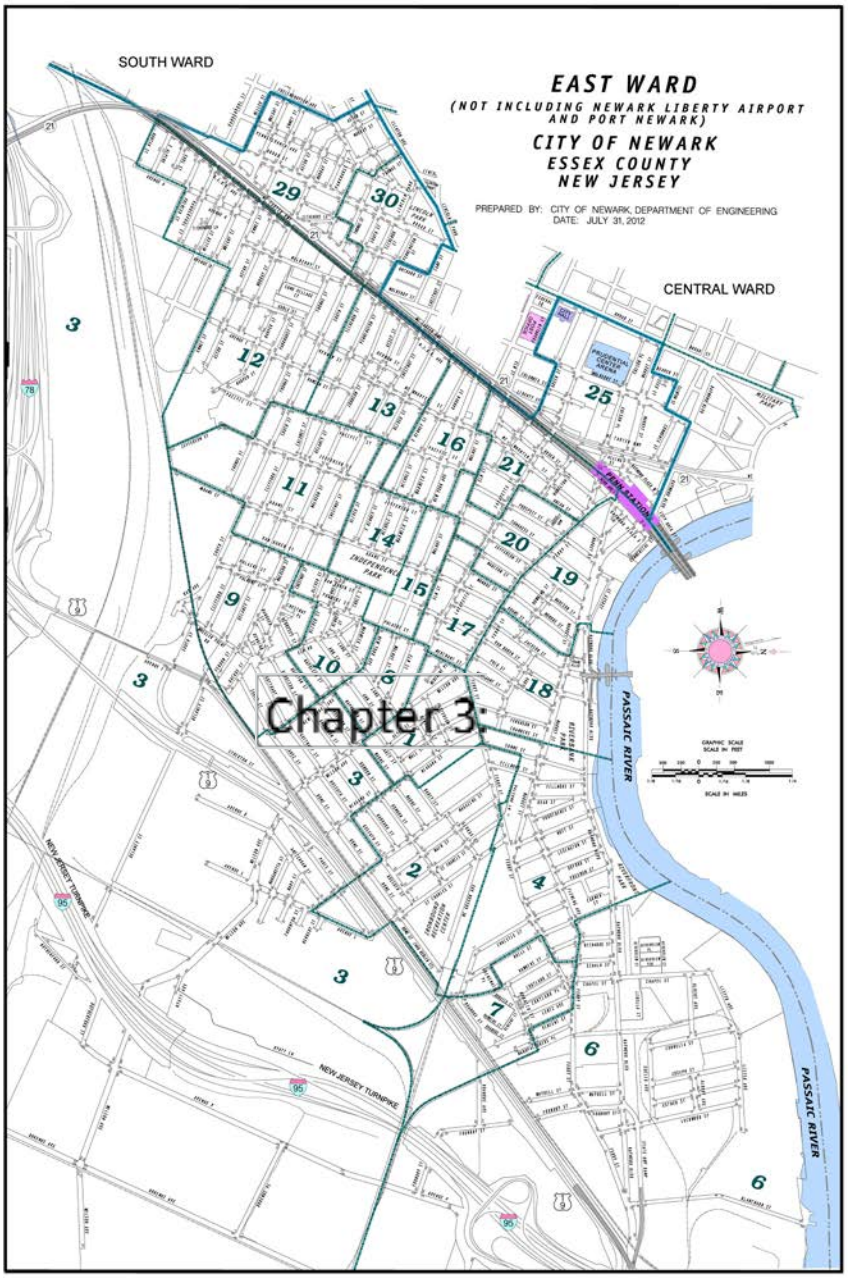

Figure 3.1 Ironbound neighborhood and surroundings.
(Source: 2003 Newark Ward Map, Developed by the City of Newark, Department of Engineering)

3.1 Location

The Ironbound is a diverse low income community located in the East Ward district of Newark, Essex County, New Jersey. Bound by highways, routes 1 & 9, 21, 78 and the New Jersey Turnpike, Newark Airport bounds the Ironbound to the South, and the Port of Newark and Elizabeth is on the East (see Figure 3.1). Surrounded by industry and multiple pollution emitting sources (Crawford et al. 1995), the Ironbound acquired its name from the railroad tracks that once surrounded the area on three sides (Burros 1987). The Ironbound has historically been a community of immigrants (Tarta 2009). In the 1800's the first immigrants were Irish and German, then it progressed to attract Slavic and Polish immigrants to the Portuguese and Spanish inhabitants of today (Tartar 2009, Semple 2010). According to the Ironbound Community Corporation (ICC), 75% of Ironbound residents over the age of five (5) speak a foreign language at home, mostly Portuguese and Spanish (ICC, 2014).

The Ironbound has about 50,000 residents and is considered to be the most densely populated area of Newark (Tartar, 2009). According to the 2010 Census about 25-55% of households in the Ironbound are living below the poverty line (US Census 2010). According to the City of Newark (2012) there are over 700 public housing units in the Ironbound and 75% of these residents are African American and low income.

3.2 Pollution Sources

The Ironbound experiences cumulative impacts from multiple polluting sources in the community negatively affecting water, air and soil quality. The specific sources of pollution in the community addressed in this study were the Passaic River, the municipal

solid waste incinerator, the Newark Liberty Airport the Elizabeth Port Authority Marine Terminal and Port Newark, the highways as well as historic soil contamination caused by past industrial pollution.

3.2.1 The Passaic River

The Passaic River which surrounds the Ironbound to the North and East is polluted by dioxin, PCBs, mercury, DDT, pesticides and heavy metals, from various industrial sources surrounding the River most specifically related to the production of Agent Orange. The River was added to the Superfund National Priorities List on September 21, 1984 (EPA 2014). In 2010 a two decade cleanup project began that will involve dredging the River and raises numerous concerns about the re-suspension of pollutants as well as numerous other ways that the community will be impacted (Passaic River CIP 2008). In addition the Newark Bay region is under a fish and shellfish consumption advisory due to contamination and as a result fishing and swimming is prohibited (Gold, 2008; Buchanan et al., 2010). The Newark Bay is also heavily polluted with polychlorinated biphenyls (PCBs) originating from the Hudson River and General Electric's manufacturing operation from 1947-1977 (Butcher et al. 2004).

In addition to these polluting sources there are over 100 brownfields sites throughout the Ironbound, many of which are the result of a manufacturing legacy that did not protect the environment above industry desires (Dimou et al. 2006, EPA 2010a). Among the numerous Superfund sites in the community is the Diamond Shamrock site, which produced Agent Orange from 1962 to 1971 and is one of the most dioxin-contaminated sites on the Superfund list.

3.2.2 The Municipal Solid Waste Incinerator

Another major source of pollution is the State's largest solid waste incinerator, which burns about 2,800 tons of municipal solid waste a day, about one million tons of waste annually (Covanta 2012). The facility does not use an updated form of pollution capture such as a filtered bag house. Instead this facility relies on the outdated Electrostatic Precipitator (ESP) (Covanta 2012). Only two solid waste incinerators of the five in the State of New Jersey rely on ESP technology, Camden and Essex (Greenfaith 2010). As a result the Essex facility emits sulfur dioxide, carbon monoxide, particulate matter, mercury and other pollutants, often in levels that exceed its Title V Operating Permit (Petition 2009; TRI 2010, 2011).

Efforts to force the facility to upgrade their pollution control technology were not effective until 2012 when the NJDEP mandated the facility install a particulate emissions control system, called a baghouse on the facility's three combustion units (Market Wired 2012). Construction of the updated pollution control technology began in 2014 and is estimated to be completed in 2016. The incinerator has violated air pollution regulations every year from 2003 to 2008 (UWUA 2009) for such air pollutants as nitrogen oxides, carbon monoxide and mercury (NJDEP 2012) and it will continue to violate emission standards until the baghouse is complete.

3.2.3 The Newark Liberty Airport

Airports and their ancillary support transportation systems produce emissions which impact the environment, human health and well-being (Penner 1999, Lee et al. 2010). The Newark Liberty International Airport is the largest airport in New Jersey and a significant source of pollution for surrounding Ironbound residents (Colodner et al.

2011). Residents living near Newark, New Jersey's Liberty International Airport were exposed to up to 914 tons of volatile organic compounds (VOC) in 1993 (Cowen 1997). In the United States, emissions from aircraft engines are currently regulated under Section 231(*Aircraft Emission Standards*) of the federal CAA, but hazardous air pollutants are not directly regulated and airports do not have to comply with State Implementation Plans when a region is designated as a non attainment area (FAA 2014).

3.2.4 The Elizabeth Port Authority Marine Terminal and Port Newark

The Elizabeth Port Authority Marine Terminal and Port Newark produces air pollution from the sea port vessels as well as the trucking business that supports this industry and its movement of goods (Colvile et al. 2000). The California Air Resource Board (CARB) Diesel Reduction Plan estimated that diesel exhaust contributes to more than 70% of potential cancer risk from ambient levels of air pollution in 2000 (CARB 2000). In December 2008 the Coalition for Healthy Ports conducted a truck count and estimated that trucks pass through surrounding Newark neighborhoods at 4 to 5 trucks per minute (CHP 2009). According to the Clean Air Task Forces 2005 Report, among the 25 states with the highest number of modeled diesel PM health impacts on children in 1999, New York-Newark-Edison areas were ranked number 1 (CATF 2005).

In December 2010, the Port Authority of NY & NJ decided to raise the roadway of the Bayonne Bridge to 215 feet (Port Authority of NY & NJ 2014). The 64 feet of additional space will allow the Bridge and seaport of Elizabeth and Port Newark to accept larger, Post-Panamanic ships. The effects of larger ships into the Port has not been identified as ultimately positive or negative in terms of pollution into the Port. Proponents of raising the Bridge argue that the larger ships will allow the Port to remain

economically competitive with other Ports on the East Coast and that the newer ships will have more modern pollution control devices, even if they will be larger and burn more fuel. Opponents of the raising of the Bayonne Bridge argue that the larger ships will increase truck traffic volumes for the duration that the ships are loaded and unloaded beyond current levels associated with smaller ships. While it is true that the net volume of cargo at the Port cannot increase beyond the Ports current capacity due to limited space at the Port, the volume of trucks loading or unloading a specific ship will be more concentrated at specific periods, which may impact air pollution concentrations periodically in the Ironbound.

3.2.5 The Highways

The Ironbound is surrounded by highways: routes 1 & 9, 21, Interstate I-78 and the New Jersey Turnpike as well as many other heavily trafficked roadways within the community. Air quality close to and downwind of heavily trafficked roadways is characterized by higher levels of pollutants (Hitchins et al. 2000, Zhu et al. 2002a,b), specifically ozone forming compounds such as nitrous oxides and volatile organic compounds. Vehicle exhaust is the largest source of ozone forming pollutants nationwide (EPA 2009) in addition to 59% of carbon monoxide emissions, which reduces blood oxygen levels (EPA 2009a). Increased air pollutant concentrations are important in determining human exposure at the individual and community levels as many people live and work near heavily-trafficked roadways (Kozawa et al. 2009). Health effects from diminished air quality for those living near high traffic roadways is well documented for respiratory complications, (Venn et al, 2001, Lin et al. 2002, Janssen et al. 2003, McConnell et al. 2006) cancer (Pearson et al. 2000), and mortality (Hoek et al. 2002).

While air quality from mobile sources has improved with new pollution abatement technologies in the last decades, recent abatement technologies have only produced marginal improvement to air quality (Oxley et al. 2012).

The Ironbound was chosen as the study area for this research because it is a unique overburdened community within Newark, NJ for the following reasons. First, the Ironbound community is surrounded on all sides by pollution (Greenfaith 2010) and suffers from a disproportionate amount of environmental burdens not experienced by the surrounding communities and the impacts on these residents from multiple sources of pollution are an EJ concern (EPA 2011). Second, the Ironbound has one of the most stable and desirable property values in the area, as well as the lowest vacancy rate in their business district (IBID 2011). Such statistics raise interesting questions as to why the community remains overburdened when it is attractive for other reasons and yet is consistently categorized as one of EJ concern (EPA 2011).

Third, the Ironbound has been identified by EPA as an overburdened community in its EJ assessment and has received an EPA Community Action for a Renewed Environment (CARE) grant to revitalize and improve the health of the community (EPA 2011). Air pollution from multiple sources was identified as the environmental and health issue with the highest priority faced by the community. Fourth, the community has a large minority population, low income, low education levels with serious health concerns (Kids Count 2008). According to the NJ Strategic Asthma Plan 2008-2013, Essex County has the highest asthma rates in New Jersey and Newark Public School nurses identified asthma as one of the largest health problems facing Newark children (Kids Count 2001).

3.2.6 Noise Pollution

Noise pollution is a recognized source of pollution among residents of the Ironbound, the City of Newark and the Department of Environmental Protection (NJDEP 2014, City of Newark 2012). The City of Newark has a link to a specific website for noise complaints on their webpage and a non-emergency call number for complaints. The NJ Department of Environmental Protection also enforces noise regulations as part of the State of New Jersey Noise Control Act of 1971. Noise pollution is considered to be an environmental risk factor which contributes to poor health (WHO 2011). Noise is defined as unwanted sounds that "can cause psychological symptoms such as anxiety, restlessness, irritability, sleep disturbances and difficulty concentrating" (Akan et al. 2012).

A common contributor to noise in urban areas is vehicle and traffic related noise which has been shown to contribute to sleep disturbance and to negatively affect mental health (Akan et al. 2012, Sygna et al. 2014). Noise has also been shown to affect individuals physically from cardiovascular problems to hearing loss (Sobotova et al. 2013, Barbosa and Cardoso 2005). The Ironbound is a community with heavy vehicle congestion as a result of being a transportation hub, for public transportation such as the railroad, buses, and the airport, as well as for the transportation of goods from the Airport and Seaport. These factors contribute to noise pollution in the community and as an environmental health risk for residents.

CHAPTER 4

METHODS

4.1 Phenomenology and Phenomenological Methodology

Edmund Husserl (1859-1938) is largely attributed as the father of phenomenology. He defined phenomenology in his work Logical Investigations 1900-1901, as the study of thinking and knowing; "experiences intuitively seizeable and alaysable in the pure generality of their essence, not experiences empirically perceived and treated as real facts" (Husserl 1913). Phenomenological methodology focuses on a phenomena as it appears to the consciousness, and how the individual experiences the phenomena so that the intentionality, essence and cognitive reasoning in response to the phenomena and experience is captured free of imposed societal prejudices (Mooney and Moran 2002).

A phenomenological inquiry in research is appropriate when the intent is to capture a complex detailed understanding of an issue, comprehend the stories and experiences of those from a specific population, and to go beyond existing theories of an issue or to establish a new theory to solve a problem (Creswell 2007). In particular the need for qualitative analysis in EJ research has been recognized as a means of capturing social inequity when investigating specific locations (Collins et al. 2011). As the objective of phenomenology is to capture the essence of individual experiences the interview method that generates both verbal and observational data is most often used and is an effective method to capture the essence of the experience without the confines and limitations of surveys or structured focus groups (Creswell 2007, Moran 2000; Fu 2005).

A descriptive phenomenological method is also capable of capturing cultural aspects of participants' attitudes, values and social interactions that may not be otherwise articulated and can influence the participants' actions (Santos and Chess 2003). Cultural aspects of vulnerable communities have been described as attractive characteristics of communities which influence length of residency as well as how individuals perceive risks (Masuda and Garvin 2006). This is especially pertinent to a study in the Ironbound where a large ethnic population of Portuguese, Brazilian, South American population live in an identified EJ community.

The phenomenological method is ideal for capturing perceptions and emotions of phenomena. Bohm, 2003 identified the importance of emotions in risk perception and the lack of investigations into this aspect of environmental risk perception. The lack of knowledge on this subject may be a result of the methodology employed, which do not capture consciousness of individual's efforts which emerges from their life-world, and is central to the phenomenological method.

4.2 Philosophical Framework

The descriptive phenomenological framework for this study was based on certain assumptions grounded in phenomenological philosophy and knowledge obtained from a review of the literature on environmental justice, risk analysis, risk management and environmental justice communities. Intentions in this study were viewed as residents' consciousness of the actions taken to reduce environmental risks, including their awareness, perception and response to environmental risks in their community.

4.2.1 The Life-world of the Experience

The phenomenological method is structured to capture the essence of a phenomenon as it exists in the life-world or the world of grounded experience as it is lived by the individual (Husserl, 1913/1962). Husserl (1913/1962) viewed the world of experience as not only "a world of facts and affairs, but with the same immediacy, as a world of values, a world of goods, a practical world" (Husserl p. 93) "present" to the individual (Husserl p. 91). The world of experience encompasses all the life experience that makes the world a life-world (*Lebenswelt*). An individual is aware of the world of experience as the "world-about-me" and "the world-about-them" (Husserl, p. 95).

The phenomenological method is concerned with the experience as it exists without the influence of abstractions and theoretical concepts associated with the natural world (King and Horrocks p.179) and is therefore appropriate for this proposed research as the EJ community is the life-world in which the residents live. The phenomenological method presents an opportunity to capture information about an experience in the life-world of resident's in an EJ community where residents face pollution in their daily lives. Living in a community where pollution is part of the daily reality, a resident has a unique perspective, due to their daily life experiences which requires specific actions to protect them from pollution. Reducing environmental risks is an embedded part of their daily life.

4.2.1.1 Phenomenological Underpinnings. The philosophical underpinnings and assumptions of the study were grounded in Husserlian descriptive phenomenology developed in his book, *Ideas: General Introduction to Pure Phenomenology* (Husserl, 1962) and are summarized in Table 4.1 adapted from Fu's phenomenological method (Fu

2010). The assumptions based on phenomenological philosophy are: (a) existence is experiential; the reality of reducing environmental risks emerges from the experience of living in an EJ community where pollutions exist, (b) the experience is intentional; the intentionality of the experience enables a resident in an EJ community with pollution to intentionally undertake specific actions linked to his/her perceptions about his/her life-world of living in an EJ community with pollution, (c) the essence of an experience can be achieved through the intentions or actions which the individual takes as a result of their experience of reducing environmental risks.

Table 4.1 Philosophical Underpinnings and Assumptions of this Study

Essential beliefs of Husserlian descriptive phenomenology	**Assumptions of the study**
'Natural knowledge begins with experience and remains within experience' (Husserl, 1962; p. 45)	Residents' experience of managing their lives to reduce environmental risks emerges from their experience of living in a community where pollution is present.
'Every experience…has intentionality' (Husserl, 1962; p. 22)	--Residents can purposefully reflect on their experience of living in a community where pollution is present and their efforts of trying to reduce environmental risks; --Residents can purposefully undertake efforts and actions linked to their perceptions about environment risks. --Residents' intentional efforts are viewed in the study as their intentions of reducing environmental risks.
Each individual event has its essence that can be grasped in its eidetic purity' (Husserl, 1962; p. 104) Husserl (1962) defined essence of experience as the 'essential universality' (p. 47) or 'essential generality' (p. 53) in an individual's experience that 'can be exemplified intuitively in the data of experience' (p. 50)	Detailing the essence of an experience can be achieved through the description of intentional efforts (or intention) and actions (or strategies) undertaken by the residents of an EJ community who shared their experience of how to manage their lives to reduce environmental risks.

Source: Husserl, Edmund. Ideas: General Introduction to Pure Phenomenology (W.R.B. Gibson, Trans.) Collier Macmillan, New York. 1962. Original 1913.; Fu, "Cancer Survivors' View of Lymphoedema Management." Journal of Lymphoedema 5:2 (2010): 3948.

4.2.2 Rationale for Phenomenological Approach to EJ Research

A descriptive phenomenological approach was employed in this research to gain a deeper and more fundamental understanding of the experience of reducing environmental risks among residents of an EJ community. The use of the phenomenological method in EJ research provided an opportunity to capture the experiences of residents in an EJ community in a more profound way and at a deeper level than what has been previously reported in most qualitative EJ research, i.e., income, educational, racial disparities and other fact based, categorical information. The goal of employing the phenomenological method was to capture residents' intentional efforts and motivations in relation to their life-world of living in an EJ community.

There is a need to go beyond simply identifying EJ communities and identifying their extent; (Lavelle and Coyle 1992, Chakraborty and Armstrong 1997, Bullard 1983, 2000; Buzzelli et al. 2003, Grineski 2007, Holifield 2009) categorizing EJ communities has had an insignificant impact on policy mechanisms and their ability to assess risks cumulatively and quantitatively in EJ communities (Bass 1998, Kloc 2009, Ragas 2011). There is a need to capture these experiences because of the previously referenced shortfalls of conventional risk analysis, which is the main policy tool used by decision makers for implementation of policy in EJ communities and which does not consider the experience of reducing environmental risks.

The phenomenological approach captured detailed daily experiences of residents in an EJ community in terms of their awareness, emotions, meanings, efforts, and actions and implications of their experience, as well as the unique experience of each individual resident by obtaining first hand observational data in terms of their efforts and actions (Fu

2005, Smith et al. 2009). Residents also conveyed emotions in relation to pollution as Lejano and Stokols were able to uncover through their research using drawings or showing the devices or instruments used by participants as they describe their experiences (Fu 2005, Lejano and Stockols 2010). Such observational information also provided insight into the experience of how the residents in an EJ community manage to reduce environmental risks throughout their daily lives.

4.3 Research Design

A qualitative and longitudinal design was employed with a descriptive phenomenological methodology to describe the experience of reducing environmental risks among the residents of an EJ community. Phenomenological methodology is a qualitative research approach often used to capture social and psychological phenomena from the perspectives of the individual's experience (Welman and Kruger 1999). The phenomenological method has been extensively employed in health care research to understand the experience of individuals who have survived major health problems, the caregivers administering treatments to them or others involved in major events that impact the well-being of patients (Chard 2000, Fu 2009, Pugh 2002, Kociszewski 2003, 2004, Davis 2010, Casida et al. 2011). Phenomenological approaches to understand individual experiences have also been utilized in pedagogical studies and specifically to understand the learning experience from the perspectives of teachers and students (Dahlin 1998, Cigdemoglu et al. 2011).

To ensure a deep understanding of the uniqueness of each participant's experience and the experience common to all participants, a descriptive phenomenological method

consisting of four phases was used for developing a bracket, gathering data, and analyzing data (Fu et al. 2005); Table 4.2 describes the four phases.

Table 4.2 A Descriptive Phenomenological Method

	Description of the Procedure
Phase I	to prepare the descriptive phenomenological study through reflection and phenomenological reduction
Phase II	to gather data by immersing in the life-world of multiple participants' experience
Phase III	to conduct a descriptive data analysis in a reflective and intuitive way that enables a description of the essential structures of experience
Phase IV	to discuss the findings by integrating the bracketed knowledge and relevant literature as well as provide implications for future research

Source: Fu, M.R. "Breast cancer survivors' intentions of managing lymphoedema**."** *Cancer Nursing, 28*:6 (2005): 446-457. PMID: 16330966.

Phase I consisted of preparing the structure of the descriptive phenomenological study through a thorough literature review and phenomenological reduction or developing a phenomenological bracket. Please also see Chapter 2. The phenomenological reduction is the process of returning "to the source of the meaning and existence of the experienced world" (Schmitt, 1967, p.61). Husserl likened the phenomenological reduction to a "disconnection from nature" which allows the experience to exist with "its pure meaning unimpaired" (Husserl 1931/62 p. 155) Through phenomenological reduction, the experience is considered for itself as it exists, from a fresh start. In the context of this research, the experience was that of reducing environmental risks in an EJ community.

Developing a phenomenological bracket to conduct phenomenological reduction requires setting aside or bracketing conventional knowledge during data collection and data analysis (Husserl 1931, 1962; Fu 2005). A phenomenological bracket for this study

was achieved through a critique of existing literature regarding environmental risk analysis, environmental management and environmental justice. The conventional knowledge about the phenomenon of reducing environmental risks in the study was the key ideas conveyed repeatedly in scientific and professional literature. The key ideas that were bracketed are summarized in Table 4.3 below.

Table 4.3 Bracketed Research Themes

Bracketed theme	**References**
1.The use of risk analysis and risk assessment as an important mechanism for structuring environmental policy.	Brody et al., 2004; ApSimon et al., 2001; Bowen, 2002
2.Incompatible environmental and land use polices do not consider localized elevated levels of environmental risks among EJ communities.	Lejano and Smith, 2006; Payne-Sturges et al., 2004; EPA, 2005a; Pastor et al. 2005
3.Reducing pollution on a large scale is the essential strategy to help individuals reduce environmental risks.	Bickerstaff and Walker, 2001; Krieg and Faber, 2004; Coburn, 2007
4.EJ communities and their residents are excluded or have limited impacts on the legal and policy decisions that affect their communities.	Bell et al., 2005; Luria et al., 2009; Holifield, 2004
5.The experience of personal risk reduction is multi-faceted and influenced by socio-economic and cultural factors, including place attachment, place identity, social networks, social capital, and the moral hazards that residents chose to accept as part of their life in an EJ community.	Lejano and Stokols, 2010; Atari et al., 2011; Mah, 2009; Pastor et al., 2001
6.Residents' perception and response to environmental risks in EJ communities are important factors that empower grassroots movements in EJ communities.	Altschuler et al., 2004; Beaumont et al., 1999; Northridge et al., 2003

Phase II consisted of gathering data by immersing in the life-world of multiple participants' experience of reducing environmental risks in the EJ community, known as the Ironbound in Newark, New Jersey. A study area was identified and explored through

community involvement and research into the historical and existing environmental conditions. The research methods were approved by the NJIT Institutional Review Board in 2012 and data gathering began after the NJIT Department of Chemistry and Environmental Science approved the study proposal in March 2013. Semi-structured interviews were conducted of 23 participants for two interviews of each research participant. Following all interviews field notes were made which identified potential themes from the interview.

Phase III consisted of a descriptive data analysis in a reflective and intuitive way that enabled a description of the essential structures of the experience of reducing environmental risks in an EJ community. In line with Husserlian descriptive phenomenological methodology, meaning and themes were identified by "comparing and distinguishing, collecting and counting, presupposing and inferring" (Husserl p. 93, 1913, 1962). A systematic classification process of text data was used to identify key content related themes about the essence of the phenomenon which share the same meaning (Cavanagh 1997, Downe-Wamboldt 1992, Fu and Rosedale 2009). Husserl (1931, 1962, p. 47) uses essence (eidos) as a universal attribute, "whatever belongs to the essence of the individual can also belong to another individual, can also belong to another individual, and the broadest generalities of essential being."

The author worked with a group of qualitative researchers and examined the data, compared identified codes, discussed interpretations and inductively developed themes (Fu and Rosedale 2009). The emergence of reoccurring themes in the data and subsequent analysis enabled an understanding of the experience of reducing environmental risks (Fu and Rosedale 2009). Strategies of "description; comparing and

distinguishing, collecting and counting, presupposing and inferring" (Husserl, 1962, p. 93) were used for data analysis in a reflective and intuitive way. Each idea in every transcript was carefully analyzed to identify the participant's intentions of actions and perceptions (Fu 2008).

A descriptive data analysis method with intuitive reflections was used (Fu 2005, Fu and Rosedale 2009) and specific data analysis procedures followed the six step method developed by Fu (Fu 2010). Fu's method expands on Giorgi's descriptive phenomenological thematic analysis which consists of four steps: familiarization with the data, identifying themes, clustering themes and constructing a summary table (Giorgi and Giorgi 2008). Step 1 consisted of reading the transcripts several times to better familiarize the researcher with the text and to gain additional insight into emerging themes. Step 2 consisted of meeting with a group of qualitative researchers who reviewed all of the transcripts, assisted with the identification of key quotations and discussed key codes regarding the research.

Step 3 entailed combining the coded quotations into one electronic file and confirming the accuracy of the identified codes and quotations. Step 4 entailed reading quotation files with the qualitative research group and identifying major themes by putting key coded quotations together for the research questions. Step 5 entailed meeting with the qualitative research group, reviewing the major identified themes together. The group discussed any discrepancies and came to a consensus on the major identified themes. Step 6 comprised reviewing the transcripts again and validating the structure of themes, side by side the interview data (Fu and Rosedale 2009).

Phase IV consisted of a discussion of the findings of the data by integrating the bracketed knowledge and relevant literature. The findings from the research were compared to the bracketed knowledge, or knowledge which is free of expectations and assumptions so that it was possible to focus on the life-world from which emerged the experience of reducing environmental risks, which was collected as data.

4.3.1 Sampling and Sample Size

A purposive sampling technique was used to recruit participants for this research who met the following requirements:

1. Being at least 21 years of age;
2. Being a resident of the Ironbound, Newark, NJ for at least two years;
3. Having the ability to speak and understand in the English language; and
4. Living within two miles of the Municipal Solid Waste Incinerator.

The factors for the recruitment of participants listed above were determined from other studies that employed phenomenological methodology. The recruitment of participants of at least 21 years of age was implemented as the age of 21 is considered a legally mature adult in most of the United States. It is also assumed that a resident of at least 21 years old would have had some independent life experiences in the community. The requirement for residency of at least two years was determined based on the belief that after two years a resident would have an established presence in the community, with relationships and connections to other residents who share similar experiences.

While the Ironbound is a diverse community with many Portuguese, Spanish and other ethnicities, the researcher does not speak these languages and the use of translation is not preferred in a phenomenological approach which relies on nuances, expressions

and a relationship between the interviewer and the interviewee for the interviewer to capture the full extent of the experience of interest to the research.

In a phenomenological study, the sample size is determined by the quality of the data and when the data is saturated, i.e., when the researcher begins to hear the same information reported from multiple participants (Morse 1986, Seidman 2012). The in-depth phenomenological interview employed on a few participants sharing a similar phenomenon can produce rich data of the experience which empowers the stories of a relatively few participants (Seidman 2012). Phenomenological studies using purposive sampling have achieved data saturation with 10-12 participants (Fu 2005). To ensure all important information is captured, two to three additional participants are usually recruited (Fu 2010, Fu 2005). Data saturation in this phenomenological study was reached with 21 participants. In order to capture all important information two more additional participants were recruited for a sample size of 23 participants and no more new information was obtained.

4.3.2 Instrument

A semi-structured interview guide was developed to conduct the semi-structured interviews as well as to provide the opportunity to flexibly ask other situational questions and use probes to elicit more information when appropriate (Fu 2005). The participant's basic information such as age, education, length of residency in the community, health history, and perceived financial status were collected as part of the demographic questionnaire (Appendix A). The interview guide was based on the researchers understanding of environmental justice issues gleaned though a literature review as well as the researchers past experiences working in the field of environmental science.

Content validity of the interview guide was achieved by consensus among Dr. Zeyuan Qiu and by a phenomenological expert Dr. Mei R. Fu (Appendix B). The core interview questions were designed to elicit information about three key sources of data concerning the experience of reducing environmental risks;

(a) participants' perception ("Please tell me what it is like for you to live in this community?"),

(b) their intentions ("Please tell me what makes [motivates] you to reduce your exposure to environmental risks, such as air pollution, water pollution, etc…."), and

(c) their actions ("Please tell me how you reduce environmental risks).

4.3.3 Procedure

4.3.3.1 Developing a Phenomenological Bracket. Phenomenological reduction requires the bracketing or reservation of conventional knowledge during the process of data collection (Husserl 1962, Fu 2005). The conventional knowledge about the experience of reducing environmental risks in an EJ community are those ideas which emerged repeatedly in the literature on risk analysis, risk management and environmental justice. Those key themes were summarized previously in Table 4.3.

4.3.3.2 Ethical Consideration. This study was approved in November 2012 by the New Jersey Institute of Technology (NJIT) Institutional Review Board (IRB). An NJIT IRB Application for human subject research was completed and approved. The IRB process required an application which detailed the proposed research as well as a meeting before the IRB council where the research was explained and questioned. IRB project

approval was based on the application and council meeting. Ethical considerations which were covered by the IRB application and meeting include:

(a) the research funding and conflicts of interest in these potential sources;

(b) the use of research participants, and considerations which may be necessary for age, gender, ethnicity, disability or other factor which could provoke ethical consideration;

(c) if the interview involves any physical, psychological, social and private risk or pain to the subjects;

(d) how anonymity and confidentiality will be protected in analysis of the results;

(e) potential benefits of the study to participants;

(f) participant compensation; and

(g) the use of a consent form for each participant.

4.3.3.3 Recruitment of Participant. The researcher recruited residents who were willing to participate in the study through the Ironbound Community Corporation (ICC), the NJIT community and through the researcher's contacts in the Ironbound community. The researcher contacted a few representatives at the ICC who regularly work with members of the community in various outreach activities. A librarian at the Van Buren Library who works with the ICC mentioned the study to patrons who she knew and met the criteria for participation. Flyers approved by the NJIT IRB explaining the study and the requirements to be a participant were also posted at the ICC, New Jersey Institute of Technology (NJIT) and at the Van Buren Library in Newark, New Jersey. The researcher

also had acquaintances in the Ironbound who she contacted by phone and asked if they would be willing to participate, or if they knew of prospective participants.

After each interview of a participant, the researcher asked the participant if they knew of others who would be willing to participate in the study and if so, the researcher either emailed the prospective participant or was contacted by them via telephone or email. Recruitment for the study was conducted on an on-going basis and took approximately six months; the actual duration for the first and second round of interviews was a seven month period.

When the researcher was contacted by phone or email by prospective participants who expressed a willingness to participate in the study, the researcher explained the proposed interview process and time requirement of the participant for participating in the study either via email or phone. The compensation and time commitment from the participant was also clarified. If the participant met the inclusion criteria, the researcher scheduled an interview with the participant's permission. The interviews were conducted in a mutually convenient public location with a private setting, such as a room at the ICC offices or in a study room at the NJIT library or at another private NJIT location. In some instances the researcher met participants at their home or office. Prior to each interview each participant was given a consent form which they were asked to sign. The signed consent form acknowledged the participant's right to participate, not to participate or withdraw from the research at any time. A signed form was obtained prior to each interview from each participant.

Confidentiality and privacy were ensured by conducting the interviews in a private setting and by safeguarding the information collected. The researcher briefly

discussed the study again during the initial physical contact and provided each participant with a written consent form. If the participant was willing to be in the study, s/he signed the consent form. The participant was ensured that their personal information that may reveal their identity was safeguarded and would not be revealed. The participant information provided in the study was presented without mentioning the participant by name.

Each participant was given a participant number and this number was linked to their identity in a coded system which was password protected and stored electronically. Each audio recording, transcribed transcript of the audio recording and field notes taken during or after the interviews were identified only by the participant number, interview number and interview date. Upon completion of the study, all identifying information about the participants was destroyed. Participants were informed verbally and through the consent form that quotes from their interviews may be used in publications and in the dissertation but in an anonymous manner. Any information that might identify a participant was not used and will not be cited.

Every effort was made to maintain the confidentiality of the study records. All study records were stored electronically with password protection. In potential publications of the findings from the study, the interviewed participants were not identified by name and their identity remains confidential unless disclosure is required by law.

4.3.3.4 Interview Process.

4.3.3.4.1 Initial Interview. An interview with a participant was conducted in February 2013 with the researcher and a phenomenological expert, Dr. Mei Fu. The interview

guide was followed during the interview and the observing expert made sure that the researcher was comfortable with the interview style and able to appropriately solicit the desired information from the participant. Following this initial interview, the researcher and the expert discussed the interview and any changes that should be made to strengthen future interviews as well as adding or changing any questions. After a review of the first interview, minor adjustments were made to the interview guide that was used for the remaining interviews. Specifically, the researcher included questions concerning littering and illegal dumping in the community as well as questions concerning the recent Hurricane Sandy and other major past catastrophic events in the community as far as they concerned environmental conditions.

After the first interview, a transcript of the audio recorded interview was made. Data analysis of the transcript consisted of coding relevant themes and classifying the data through taxonomy of themes and the context of the themes, from general to specific.

4.3.3.4.2 Overview of the Interviews. All interviews were recorded using a voice recording device and the researcher employed field notes during the interviews to a limited extent without detracting from the informal interview process as well as directly after the interview was over. The use of field notes on the researcher's observances before, during and after an interview strengthened the study by introducing triangulation. The researcher set aside 15-20 minutes after each interview to take notes on observations, feelings and other themes that emerged in the interview (Lofland and Lofland 1999). The researcher did not conduct more than one interview in one day.

Transcripts of the participant's responses were created following the interview within two weeks and each participant's responses were examined as an interview

transcript. The researcher familiarized herself with each interview and subsequent interviews before she attempted another interview in order to ensure she had not missed any emerging themes in the data which might have benefited the next interview.

In-depth interviews were conducted based on the interview guide with the goal of a 70-140 minute timeframe for the each interview session. A second interview was conducted with each participant based on the same interview guide with the same interview timeframe goal as the first interview session, within two months of the first interview.

Data saturation in this study was reached with 21 participants, and in order to capture all important information two more additional participants were recruited for a sample size of 23 participants and no more new information was obtained. A total of 43 interviews were conducted. The first data gathering process took seven months to complete. The seven month period for the first set of interviews was due to the purposive recruitment process, time constraints of interviews, availability of the participants, many of whom work during the day and were only available in the evening or on the weekend. The researcher also accommodated participants who needed to change and reschedule appointments. The Ironbound is considered a close knit community with a large immigrant, non-documented population. It is also located in Newark, New Jersey a city with one of the highest crime rates in the State of New Jersey. Recruitment of residents was challenging for these reasons and participation was mostly successful if a participant had spoken to a trusted source, such as the ICC representative, the Van Buren librarian or another participant and was confident that the research was safe and legitimate.

Interview #2 was conducted after two months of the first interview and also took seven months to complete. Some of the second interviews of the first few participants occurred during the time period of the second interviews; all first and second interviews were conducted in nine months, from February to October 2013, except for the last participant's first interview which was added in November and the second interview of this participant which was completed in January 2014. One participant was unavailable for a second interview and two other participants were dropped from the study after the first interview based on their unfamiliarity with the community and environment. The researcher completed 23, first interviews and 20 second interviews for a total of 43 interviews.

Adherence to NJIT university ethical procedures of human subjects was followed and informed consent and honesty was employed in all instances. The research participants were offered compensation of $40.00 for each interview for a total of $80.00 for the two interview sessions. Research compensation was conducted within applicable NJIT IRB guidelines.

4.3.3.4.3 Description of the Interviews. In order to prepare for the first interview the researcher read over the interview, guide and the questions in order to facilitate a more natural conversational interview, where the participant felt comfortable and was willing to share their experience freely (Seidman 2012). When the researcher met with each participant, she explained the study and methodology further. The participants were given another opportunity to agree to be in the study or to withdraw and reminded that they were able to withdraw from the study at any time. All participants agreed to be in

the study. After each participant signed the 'Consent to Participate in a Research Study Form' (Appendix C), the researcher began the first interview.

4.3.3.4.4 Interview 1. In the first interview, the researcher gathered data on the four categories of the interview guide concerning place identity, place attachment, moral hazards and coping strategies that the participants experienced as part of their life-world of living in an EJ community. The questions in the interview guide were created and organized to elicit feelings about the community as well as the participants' perceptions, intentions and actions towards the environmental conditions in their community (Question 1-3 in Coping Strategies). The first question in all of the interviews was always the same, "Can you please tell me how you would describe yourself, your community and your neighborhood?" The goal of this question was to gently start the interview in a conversational manner in which the participant described themselves and their environment. Some participants asked if specific information was of interested in regards to their experience in which case the researcher would respond, "your background.' This was often enough of a prompt to get a detailed response.

This first question often elicited data that was of interest for other later questions, at which point the researcher would segue into these questions in order to continue the natural flow of the interview. For example, if a participant described the attitude of residents in the community to litter or illegal dumping, the researcher would ask more about their feelings regarding these issues and then ask further about other environmental issues, such as the municipal waste incinerator, even though this was to be covered in a later portion of the interview guide. Probes such as, "please tell me more about that" or "how does that make you feel," were used often to obtain a more detailed description of

the experience. It was also a way of validating the information obtained and confirming the intent of the participant.

4.3.3.4.5 Interview 2. The second interview session began with the researcher thanking the participant for their involvement in the study and another reminder of the manner in which the second interview would proceed. The participants were reminded that the same questions would be asked. Some participants questioned this and the researcher explained that this was helpful to gain a more in depth detail of the participants experience as well as for data validation. The researcher explained to the participant that they were able to respond freely and change their answers if they wished. The researcher explained to the participant that there was no requirement to respond in the same way as in the first interview. Many participates had changed some of their responses, either with more detail or they said, "I thought about XXX from our first interview and now I feel this way" or "XXX happened since we last spoke." The same probes were used in the second interview as in the first. At the end of the interview, the participant was asked to fill out a demographic questionnaire (Appendix A).

The researcher also used a summary question that attempted to elicit reflection from the participant on their experience of reducing their environmental risks in the community; "What do you think needs to be done in the community to improve the environmental conditions?" This question was always asked at the end of the interview and also assisted in data validation by asking the participant to reflect and summarize their responses during the interview.

Three other key questions which assisted in assessing the main themes of the participants experience were questions regarding (a) participants' perception ("Please tell

me what it is like for you to live in this community?"), (b) their intentions ("Please tell me what makes [motivates] you to reduce environmental risks, such as air pollution, water pollution, etc…."), and (c) their actions ("Please tell me how you reduce your environmental risks). After reading the transcripts of all participants, data was categorized according to the life-world of the participants and the experience of reducing environmental risks.

4.3.4 Data Collection and Management

In this research, a semi-structured interview method was employed to understand the residents' experience of reducing environmental risk among residents of an environmental justice community located in the Ironbound, Newark, New Jersey. All interviews were recorded on an Apple I-touch recording device. The audio recordings were saved by the date and length of the interview with no personal identifiable information. After each interview, the recorded audio file was transferred to the researchers personal computer which was password protected. The audio file was transcribed within two weeks into Microsoft Word and stored electronically on the researcher's personal computer. The transcripts were named based on the participant's coded number, the interview number and the date of the interview. All these files will be retained until the dissertation and publications are finalized.

4.3.5 The Participants

The participants were 23 male and female residents of the Ironbound community which met the inclusion criteria previously stated. The researcher made attempts to include ethnically and racially diverse participants, who had lived in the community for varying

lengths of time as well as including participants of different ages. The researcher also attempted to include participants with families that included small children and participants who worked with children in the community. There were 13 female participants and 10 male participants. Six participants lived in the Ironbound for six years or less and the rest for 12 years or more. One resident was 21 years old and another was 27, the rest of the participants were over 30 years old. Prior to the recruitment, the researcher was not acquainted with any of the participants except for one woman who the researcher had met once prior through another acquaintance. Detailed participant demographic data is presented in Table 4.4.

The number assigned to the participant at the beginning of the study is used throughout the dissertation to refer to one specific participant, their demographic information and any quotations obtained from their interviews. Following each quotation in the dissertation, a participant is referenced by their participant number as P-01, for participant 1 and I-01 or I-02 to refer to Interview 1 or Interview 2 for a particular participant. The annotation for a quote obtained from the first participant's first interview would be (P-01;I-01).

Table 4.4 Participant Demographic Data

Subject ID	Age	Career Field	Ethnicity/Race	Sex	Years lived in the Ironbound
01	68	Retired	White	M	40
02	60	Retail	White	F	55
03	33	Paralegal	Puerto Rican	F	6
04	34	Teacher	Cuban	M	34
05	43	Legislator	Portuguese	M	43
06	50	Teacher	White	M	6
07	39	Student	Portuguese	F	23
08	68	Artist	Caribbean	F	36
09	70	Restaurant Owner	White	F	69
10	31	Nanny	Brazilian	F	5
11	39	Librarian	White	M	34
12	34	Bookkeeper	Brazilian	F	12
13	67	Retired Banker	Spanish	M	40
14	30	Seaport Operator	Cuban	M	20
15	27	Nanny	Brazilian	F	3
16	57	Architect	White-Caucasian	M	5
17	59	Teacher	White-Caucasian	F	59
18	63	Retired-Factory Worker	White-Caucasian	F	61
19	46	Architect	Hispanic	F	20
20	39	Cleaner	Brazilian	M	4
21	21	Student	Brazilian	M	17
22	53	Teacher's Aid	Spanish from Spain	F	53
23	41	Teacher	French	F	12

4.3.6 Reliability of the Data

Data in both quantitative and qualitative research is considered reliable if the information obtained is able to be duplicated or confirmed. For this qualitative study, the data was considered reliable when the same or similar questions were asked during a second interview with the same participant. In order to achieve data reliability the researcher conducted the interviews in a similar manner. The researcher also conducted all of the interviews, with the exception of the first interview for the first participant, which was supervised by a phenomenological expert. The last participants first and second interviews were assisted by a research assistant. The presence of the same interviewer at all of the interviews enhanced data reliability (Saldana 2003).

The style of the interviews was similar because the interviewer was a consistent figure in all interviews. Each participant was interviewed more than once after a time period of two months. The design of a longitudinal study allowed the interviewer to explore the phenomena presented in the first interview and confirm the understanding in the second interview (Seidman 2012).

Although the interviews were semi-structured, the interviewer tried to stick to the same structure of questions in the first and second interviews for each participant. This was achieved by reviewing the first transcribed interview of a participant numerous times before the second interview and by making notes on the interview guide for the second interview. The researcher also made notes on the first interview and identified areas in the interview where some meaning or intention may have been evasive. In these instances, the interviewer would ask, "I know we discussed xxx in our first interview, do you still feel the same way?" Or in one interview a participant discussed how he had participated in 'truck counts' with a community organization as a way to identify how many trucks were passing through the community and increasing traffic and subsequently causing an increase in exhaust emissions. During the second interview, the participant was asked, "So have you done any more calling [the police about idling trucks] since we last spoke…Have you done anything about the idling? Have you participated in any kind of truck count or calling the police? Data reliability was confirmed with the similar responses to the same questions in a second interview with each participant.

For example, in both sets of interviews, 1 and 2, participants were asked "what do you do to protect yourself from environmental pollution in your community?" When participants discussed the smell of exhaust from vehicles in their houses, the interviewer

would ask the participant if they did anything to stop the smell from entering their home. Most of the comments on the pollution caused from vehicle exhaust in the community were similar. The predominant response regarding preventing the exhaust from entering a residence was to keep the windows closed most or all of the time. When a participant mentioned being bothered by noises from vehicles, airplanes or industry, the interviewer would ask if the participant wore any hearing protection. All participants made similar comments about the noise in the community, although not all wore hearing protection most participants practiced rituals to protect themselves from noise pollution. The data in these instances and others was similar and therefore considered reliable.

4.3.7 Validity of the Data

Data validity is the truthfulness and correctness of the data (Kvale and Brinkman, 2009). In a phenomenological study the individual's experience is intrinsically truthful and accurate (Husserl, 1913/1962). The presence of the individual in the experience makes for a truthful and correct experience and the further retelling of this situation in an interview is valid because of the presence of the individual during their experience (Giorgi 2002). Based on Husserl's phenomenological methodology, the individual experience of the participants in this study as they convey it in the interviews is truthful and correct.

In order to validate the data, the researcher summarized and reiterated the experiences of the participants and asked the participant if this was correct during the interview (Barbour 2011). For example, the researcher asked, "So it sounds like the air pollution has exasperated your respiratory problems." The participants would then respond affirmatively or refute the comment. In another example, a participant was

discussing their lack of confidence in the Government concerning environmental issues and the researcher asked, “So it sounds like you do not have much confidence in the Government.”

Another method to confirm data validity in the study was though observational data. Participants showed the interviewer examples of their strategies to reduce environmental risks. One participant who was concerned about noise pollution in the community showed the researcher the earplugs that he wore on a regular basis when outside his home in the community to protect his hearing and prevent further hearing loss. Many participants who were interviewed in their homes showed the interviewer the windows that they kept closed in their homes to prevent the infiltration of air pollution. Two participants showed the location of air filters that they regularly changed to ensure air purity in their homes. These actions that the participants took regularly to protect themselves from exhaust, noise and other air particulates were integral to their experience of reducing environmental pollution in their community and the observational data validated this experience.

4.3.8 Data Analysis

A descriptive data analysis method with intuitive reflections was used (Fu 2005, Fu and Rosedale 2009) and specific data analysis procedures followed the six step method developed by Fu (Fu 2010). Strategies of “description; comparing and distinguishing, collecting and counting, presupposing and inferring” (Husserl 1962, p. 93) were used for data analysis in a reflective and intuitive way. Using such strategies, the researcher carefully analyzed each idea in every transcript, differentiated each participant’s actions

from their perception of the experiences, and identified the participant's intentions of actions (Fu 2008).

Data analysis followed the six steps developed by Dr. Mei R. Fu in her phenomenological study among breast cancer survivors (Fu 2008). Step (1) Reading the transcripts several times to gain a broad understanding of the text; (2) Meeting with a group of qualitative researchers who reviewed transcripts, identified key quotations and discussed key codes related to the research question; (3) Combining the coded quotations into one file and confirming the accuracy of the code and quotation; (4) Carefully reading quotation files with the group, identifying major themes by putting key coded quotations together for each research question; (5) Meeting with the group, reviewing major themes together, and engaging in active dialogue to resolve any discrepancies; and (6) Reviewing the transcripts and validating the structure of themes alongside the interview data (Fu 2010).

4.3.8.1 Preparation for Descriptive Analysis. The interview transcripts were validated by the researcher by listening to the audio recordings and comparing the transcriptions to the recordings. This was done at least twice by the researcher and another time by another research assistant. In Chapter 1 the researcher identified four aims of the study. The data was analyzed with regard to each aim as described in Table 4.5. Once the researcher was confident that the transcripts were true to the audio recording, data analysis was conducted by indexing, coding and memoing.

4.3.8.2 Descriptive Analysis. A descriptive data analysis with six steps was carried out as part of phase III of the four phase descriptive phenomenological method (Table 4.2).

Step 1 Reading the transcripts several times to better familiarize the researcher with the text and to gain additional insight into emerging themes.

Table 4.5 Data Usage as related to the Specific Aims of the Study

Specific Aims	Procedures of Descriptive Analysis	Use of the Data
Aim 1- To delineate the essential structures of the participant's experience of reducing environmental risk	Analysis was conducted through comparing the participants' intentions which was classified under broader categories	All participant data was considered in totality as a unit
Aim 2- To delineate each participant's unique experience of reducing environmental risk	Interview and observational data was analyzed in order to delineate each participant's intentions as they reduced environmental risk	Each participant's data was analyzed separately
Aim 3- To delineate the participant's life-world as the context from which emerges the experience of reducing environmental risk	Analysis was conducted by comparing participant's perceptions which was classified under broader categories	All participant data was considered in totality as a unit
Aim 4- To identify important factors which facilitate or impede the experience of reducing environmental risk	Possible explanations for the intentions or changes of intentions will be analyzed as aspects that could facilitate or impede reducing environmental risks	Each participant's data was analyzed separately and then all of the participants data was considered as a unit of analysis
Overall Purpose: Describe the experience of reducing environmental risks	Using the classification developed and data examples to describe the experience of reducing environmental risks in an Environmental Justice Community	Data from all interviews was compared and contrasted

This step involved reading both sets of transcripts for each participant and trying to make sense of the data, which was specific to the participant as well as universal to the study. Field notes made during and after the interview were also reviewed. The transcripts for each participant were read multiple times to familiarize the researcher with

the data. The researcher attempted to identify a larger context within each transcript and set of transcripts that showed a connection from one participant to another (Bazeley p. 113). Emerging themes in the data were identified and explored by reading and identifying similar themes among the data from multiple participants.

Step 2 Meeting with a group of researchers who have previously reviewed all of the transcripts, assisted with the identification of key quotations and discussed key codes regarding the research.

During this step, the researcher met with a group of qualitative researchers to identify key quotations and codes. The key quotations and codes were discussed within the context of the themes identified in Step 1. Coding in qualitative research interviewing has been described as a short phrase or quote that captures a summative or essence-based attribute for language data (Saldana p. 3).

Coding can provide a connection between the data collection and the meaning of the data (Charmaz 2001). Meeting and discussing the key quotations and key codes with the phenomenological experts was very helpful in identifying appropriate quotations and codes for the study. The group of qualitative researchers were able to act as a sounding board for the researcher so that she was able to better organize the data and understand the experience of reducing environmental risks in the community. It was also an opportunity to share the researcher's understanding of the data and confirm this with the group of qualitative researchers.

Step 3 Combining the coded quotations into one electronic file and confirming the accuracy of the identified codes and quotations.

The key quotations and codes were combined into one electronic file and the accuracy of the codes and quotations were confirmed. The researcher listened to the audio files another time and compared the transcriptions to the transcribed file. In addition, another research assistant listened to the audio files and confirmed what was written. If any audio could not be understood, it was clearly marked as inaudible in the transcription. In order to ensure confidentiality and anonymity, any name or place identifying information was deleted from the transcript and referred to only as XXX.

Step 4 Reading quotation files with the qualitative research group and identifying major themes by putting key coded quotations together for the research questions.

The quotation files were read with the qualitative research group and major themes were identified. The researcher identified themes of the life-world and the contexts of these themes, which is further discussed in Chapter 5. The researcher also identified themes from the data as part of the experience of reducing environmental risks in an EJ community, which is further discussed in Chapter 6.

Step 5 Meeting with the qualitative research group, reviewing the major identified themes together.

The researcher met with the qualified research group to discuss the identified themes of the life-world and the identified themes of the experience of reducing environmental risks in an EJ community. The group discussed any discrepancies and came to a consensus on the major identified themes.

Step 6 Reviewing the transcripts again and validating the structure of themes side by side the interview data.

The transcripts were reviewed again and the structure of the themes were validated. As was described previously, data validation was ensured through the use of a second interview which gave the researcher the opportunity to verify data. The completion of the first interview before the second interview with each participant allowed the researcher the opportunity to familiarize herself with the data and identify areas in the interview where the understanding may have not been clear. In these cases the researcher made sure to ask the participant to expand on these areas in the second interview. In other instances, a topic may have been mentioned by a participant and not fully explored by the researcher during the first interview. During a review of the first interview, transcript the researcher may have only realized that an issue needed further explanation by the participant after she had read the transcript several times. In these instances, the researcher asked the participant to expound on the issue further in the second interview.

After all of the interview data from the first and second interviews was compared and contrasted, the information was categorized into taxonomies. Data was analyzed and categorized into two levels for the life-world of participants as essential themes and thematic contexts of the life-world (Table 5.1). The essential themes emerged from the thematic contexts and is further explained in Chapter 5.

The experience of reducing environmental risks in an EJ community emerged from the life-world. Data was categorized into three levels, from universal to detailed and captured the participants' intentions: essential intentions to contextual intentions and intentional actions (Table 6.1). The contextual intentions of the experience emerged from

the participants actions to reduce environmental risks in an EJ community. The data which formed the experience of residents is further analyzed in Chapter 6.

Phase IV of the four phase descriptive phenomenological method consisted of a discussion of the findings of the data and the bracketed knowledge. In Chapter 7 the findings from the research were examined and compared to the bracketed knowledge, or knowledge which is free of expectations and assumptions. The bracketed themes were identified prior to data collection and discussed in Chapter 4, Table 4.3.

CHAPTER 5

THE LIFE-WORLD OF LIVING IN AN ENVIRONMENTAL JUSTICE COMMUNITY

This chapter focuses on the life-world of residents in an environmental justice (EJ) community as the context of which emerged the experience of reducing environmental risks. The goal of this chapter is to describe the life-world of residents living in an EJ community by providing a detailed exposition of residents' perceptions, opinions, and insights as they emerged in the data. Each participant's experience is unique and context dependent; the actions of participants as they reduce their environmental risks emanates from their life-world. As a result, it is necessary to understand the unique experience of each participant's life-world, which will be delineated in this chapter as a basis from which emerges the experience of reducing environmental risks, further explored in Chapter 6.

Residents in the Ironbound perceived their community as polluted and living in the community was stressful. Participants also described their community as having positive attributes, which they described as the reason they remained in the community despite the awareness of its detrimental environmental conditions. The life-world of participants in an EJ community was delineated from essential themes to contextual characteristics, that is, from general to specific. The essential themes represent the universal or general experience shared by the participants and the contextual characteristics provide specific contexts to each essential theme.

The participant's life-world encompassed both positive and negative experiences in the community. Participants described benefits of living in the community, which

were the community's central location and cultural diversity. They also described social connections in the community which prevented them from relocating. Participants were however, also aware of the environmental pollution in their community and the emotional distress elicited from these sources of pollution.

Data analysis of the life-world produced a descriptive life-world that was focused on (1) attractive aspects of the community, (2) participants' perceptions of environmental risks in the community and (2) their emotional distress as a result of being confronted with these risks. Participants' described the benefits that the community offered as the reasons they came to the community and the reasons that they remain in the community. Participants' perceptions of environmental risks were data that emerged in response to an awareness of pollution sources in the community. Emotional distress was data regarding the participants' emotional discontent, such as frustration, anger, sadness or disgust towards the community's environmental condition.

Three main themes of the community's attractive aspects with nine sources as the context of these aspects emerged from the data. The three themes of the community's attractiveness were (1) being attracted to one's native culture, (2) being attracted to the convenient location of the community and (3) being attracted to established social connections in the community (Table 5.1).

Two themes of perceived environmental risks with eight sources as the context of these perceptions emerged from the data. The two perceptions of environmental risks were (1) being aware of environmental risks in the community and (2) realizing the harmful effect to personal health from environmental risks (Table 5.2).

Four essential themes of emotional distress with 13 contextual characteristics emerged from the data. The four essential themes were: (1) being frustrated by unheard voices, (2) being angered by ongoing pollution sources in the community, (3) being sad by the lack of efficiency of personal or community effort, and (4) being disgusted by the current condition of the community (Table 5.3).

Participants spoke affectionately of their community, it was their home. The community offered benefits, such as diverse cultural influences which were described as welcoming for recent immigrants and comforting for first generation participants. The community was described as being located in close proximity to public transportation, New York City and as a very walkable community where it was not necessary to own a car. Participants also spoke of relationships that they had with neighbors, friends and family in the Ironbound.

Participants were aware of the polluted environmental condition of their community, including air, soil, water, noise and light pollution. The sources of pollution in the community at which participants directed their distress were air pollution, including exhaust from vehicles, sea vessels, air planes, the railroad and the municipal waste incinerator. Participants were aware of water pollution in the community and were concerned about the condition of the Passaic River, drinking water and contaminated flood water in the community. Soil contamination was also a concern including contaminated soil at historical industrial polluted properties and residential properties built on contaminated land.

5.1 Life-world of the Attractive Aspects of the Community

Participants described being attracted to the Ironbound. Although participants described negative aspects of living in a polluted community, there were other aspects that they described positively. Three main themes emerged from the data regarding attractions of the community (1) being attracted to one's native culture, (2) being attracted to the convenient location of the community, and (3) being attracted to established social connections in the community. These three themes and their contexts are further illustrated in Table 5.1.

Table 5.1 Examples of Participants' Life-world of Attractions of the Community

Essential Thematic Attractive Aspects of the Community	**Contexts of the Attractive Aspects of the Community**
Being attracted to one's native culture	Being able to communicate with native language Being able to eat food and buy products from native country Being able to participate in native festivals
Being attracted to the convenient location	Being close to public transportation, trains, buses, airport, etc. Having easy access to NYC, surrounding communities Not needing a personal car
Being attracted to established social connections	Being close to family and friends Having lived in community for a long time Feeling the community is my home
Being attracted to affordable housing	Being attracted to reasonable rents Owning my home
Being attracted to comparative safety	Feeling the neighborhood is safer than other areas in Newark Feeling the neighbors look out for each other

5.1.1 Being Attracted to One's Native Culture

The Ironbound is a community with a large immigrant population and was described as a community that has historically attracted immigrants due to its affordability and

proximity to industrial employment. The community has retained its immigrant population even as the industrial factories that once densely populated the Ironbound closed their operations. Participants described the cultural aspects in the community as attractive and desirable. Three contexts of the theme "being attracted to one's native culture" emerged from the data (1) being able to communicate with native language, (2) being able to eat food and buy products from native country, (3) being able to participate in native festivals.

5.1.1.1 Being Able to Communicate with Native Language. Participants who were immigrants described the ability to communicate in their native language as a benefit to living in the community. Although all participants interviewed for this study spoke English well, many appreciated being able to communicate in their native language or to hear the language of their parents and relatives spoken in the community. One resident who came to the community as a young girl said, "being Portuguese and an immigrant, when I think about the Ironbound, that area of Newark, I think it's really good for someone who's an immigrant, doesn't speak the language and comes initially to get adjusted to a new country (P-7;I-1). Another immigrant from Brazil said, "we don't need to speak English here because everybody speaks Portuguese or Spanish. A lot of people don't speak English at all there. And everybody kind of knows each other and helps each other there" (P-10;I-1).

Some participants also described having significant others or family that did not speak English well and they were still able to get along well in the Ironbound. Another participant felt it was important to know another language besides English in the community, she described the community as "multinational of course but international…

now it's mostly South Americans and Central Americans. And whereas previously people that came here always learned the language these people…don't speak English. So you have to know Spanish or Portuguese, something" (P-2;I-1).

5.1.1.2 Being Able to Eat Food and Buy Products from Native Country. Participants described being attracted to the cultural influences in the community and the opportunity that they had to eat food and buy products from their native country. The ethnic restaurants in the Ironbound are well known inside and outside the community. One resident described his affinity for the cultural influences in the community "we like the restaurants, I personally love the café's… after work I go to a café and there's a new Moroccan café that opened up on Ferry Street. I go there, I sit down, you get to know people, you talk with them and the same thing in the Portuguese, the Brazilian café's. We know the owners; we know the waiters sometimes. We get friends with them, and so it's real nice….In the summer and spring you can sit outside, so it's Europeanish, it's like that down in Brazil too" (P-6;I-1). Another participant also said "I like the café's. I like to be able to sit in a café, nobody bothers me. If I have one coffee I can sit [un]till 10 o'clock at night. I like the restaurants even though I don't frequent them as much as I used to. It's just more of my kind of a, it's racially also more comfortable for me because I'm not black, I'm not white, I'm not anything. I'm totally mixed" (P-8;I-2).

One participant of Puerto Rican descent said "foods fantastic. I mean they have really good restaurants here" (P-3;I-1). Another immigrant said she liked the community "[be]cause I can find Brazilian food, and Brazilian people, Brazilian music. [Be]cause here it's so different that live American. I used to live in Upstate New York, it was so different! People were different, food w[as] different, culture difference[s], so [in the

Ironbound] I feel like [I am] in Brazil, kind of Brazil in Newark. So that makes me feel, not home sick all the time" (P-10;I-1). Another participant said "I go to the café, I sit down, talk to the waiter, get a little something, and breath, so that's what's nice about Ironbound…people like to come visit for restaurants" (P-6;I-1). The community has many ethnic stores and participants described this as a benefit of the community. One participant said "I can find my, most of my tropical foods [in the Ironbound]" (P-8; I-2).

5.1.1.3 Being Able to Participate in Native Cultural Activities. Participants were attracted to the cultural aspects in the community, of their own direct heritage but also to the influences of their partners and friends. One resident who had married a Brazilian immigrant said, the "Ironbound is unique in that way for sure. And so, we've lived a lot of places, but I don't really know any other place like that in New Jersey, so it's definitely unique. They have the parades, they have the cultural parades, you have the Portuguese, Brazilian, and other Hispanic parades, so there's something to that, the festivals. So the culture part of the festivals is nice" (P-6;I-1). Another participant also felt the community was very unique and described it as "one of the most colorful communities in the State. It's an immigrant enclave. If you go back 150 years, you talk about German, and then you had Irish, then you had Polish, and then you had Italian, then you had Portuguese, then you had Brazilian, and now you even have more Latin American, Spanish speaking Latin American. So in terms of the influx…that creates for a very dynamic neighborhood in terms of entrepreneurship, in terms of vitality" (P-5;I-1).

Participants described the importance of feeling culturally connected in the community; "there's a lot of Portuguese there, and I'm Portuguese, [there is] that connection" (P-7;I-1). Another participant described feeling comfortable in the

community and being able to relate to her neighbors “I can relate to the attitudes of the Brazilian women and the Ecuadorian women, and the Mexican women because they all have, they all have a part of the cultures that I come from. And if it’s not to say, if you don’t even want to think about it in terms of the culture, being a Hispanic or French or whatever, it’s a culture of people from the earth, people from small villages, people from a community. So that’s what I like about it, I like that I can walk down the street and say hey, hi, how you doing to the hardware store man, the guy who’s giving out the cards will stop me on the street and talk to me. People know the people who live here. And even if they don’t say hello to you, you’re comfortable….there’s a sensibility of that, that I’m an immigrant, so I’m comfortable in an immigrant setting. (P-8;I-2).

Another participant from Europe felt an affinity to the European feel of the community; “As for myself, I am French but I have been living in the US for 18 years and I've been living where I am right now in the Ironbound section of Newark for 12 years. And the reason why we picked the Ironbound was because as a European when we first went down there and my husband introduced me to the neighborhood I really fell in love with the coffee shop, the fact that it…they serve tiny little cups of coffees… And the fact that people kissed each other on the cheek exactly like in Europe and the bread was awesome so that's the reason why we chose that specific section to live in where we are right now” (P-23;I-1). Another resident said, “the …Portuguese have a good community. They’re more stable than a lot of the other ethnic groups so they try to keep the culture tradition. So when they have their parade, they have cultural dancing that they teach their kids, and they teach them sometimes to play musical instruments, and they have dances

where they do the cultural dancing, so the Portugal, Portuguese is more of a community" (P-6;I-1).

5.1.2 Being Attracted to the Convenient Location of the Community. The Ironbound is centrally located on the East Coast, between the major cities of Boston, New York and Washington. Participants in the study identified the Ironbound as a very well situated city, especially in relation to its proximity to New York City and other surrounding communities. Participants described the benefits of the public transportation system in the Ironbound and Newark and the benefit of being able to access other public transportation systems from the community very easily. Participants also felt that the community did not necessitate owning a personal vehicle to live well in the community. Three contexts of the theme "being attracted to the convenient location of the community" emerged from the data (1) being close to public transportation, trains, buses, airport, etc. (2) having easy access to NYC, surrounding communities and (3) not needing a personal car.

5.1.2.1 Being Close to Public Transportation. The access to public transportation in the community was described as a benefit for participants. One resident said "you got Penn Station right there, you can go anywhere. (P-6;I-1). Participants who did have cars for employment outside of the community described not using their cars when they were in the Ironbound because it was not necessary to have a car to live in the community. One participant said "on the weekends… I will park the car and done, and hopefully not using the car anymore. We use public transportation as much as possible" (P-23;I-1). Another resident said "it's [Ironbound] close to everything….Don't drive? just take the train. We can go anywhere from there. They have trains and busses everywhere" (P-10;I-

1). Participants even liked the convenience of the airport "I think it's [Liberty Airport] convenient. You have to admit, it's very convenient (P-23;I-1).

5.1.2.2 Having Easy Access to NYC, Surrounding Communities. The proximity of the community to New York City was described by participants as very attractive. One participant said "I like living in this area particularly because it's … close to New York City. See, in all my life I've gone into New York City for the educational, cultural, and social things there. So I would never like to live in New York City, but visiting there and taking advantage of it is what keeps me, I guess here… I like the area because we do, there is a lot of things that do happen and occur here, the other areas don't seem to have this…the idea being able to go down to Penn Station and get a train into New York City (P-1;I-1).

Participants felt the community was very centrally located on the East Coast, one participant said, "where it's located its access is all the highways and so forth to New York City and other parts of the state, and Port Newark, Newark Airport, down here and all this" (P-1;I-1). Simply put participants said "it's nice to be close to New York [City]" (P-6;I-1). Another participant said "Yea it's definitely convenient…here I walk like two blocks I have Seabras [grocery store]. I walk another two blocks I have CVS, so everything's really close it's not like I'm constantly driving around trying to look for stuff. Even like during storms it's perfect because [my husband] and I have walked to Seabras [grocery store] just to have dinner so everything's really close" (P-3:I-1). Another resident described the closeness of stores in the community as being a benefit as she grew older. "And everything being so local, that's great. And you know as you get older too which I never thought ahead for. It's good because even though you are old

everything is still easy to get to. You don't have to depend on oh …if you are sickly or you can't walk well…Seabras [grocery store] delivers so you can even place a phone order for food and get your groceries delivered. So for that reason it is good. It's convenient. (P-2;I-1).

5.1.2.3 Not Needing a Car. The ability to walk in the community was attractive for many participants. The ability to walk in the community was often described as a benefit in the community when participants were asked "Tell me one thing that you like most about the Ironbound?" One participant said "well it's nice to live here … everything is in walking distance. … Stores are all local not far to walk to [be]cause I don't drive. (P-2;I-1). Another participant said "we live one half a block away from Ferry Street. And, so whenever we need anything we just walk out" (P-6;I-1)**.** Participants felt that most things that they needed were accessible on foot "you can walk around here and get almost anything you want" (P-1;I-1). Another participant said "we like being in a community where everything is right there. You don't need a car, you can walk anywhere" (P-6;I-1). Another participant said "it's very convenient, the area, for many years I didn't have to drive or anything, where I could work and do everything" (P-7;I-1).

Participants did not feel owning a car was necessary in the community. One participant said "the only time I use a car is if I'm going long distance. In Newark, I don't like driving to work" (P-6;I-1). Another participant who did not own a car said "when I needed a car to go someplace, I rent, it's a lot cheaper than owning it. I have had cars growing up, but I find it a pain when you have to wash them, and park them…parking's a big problem down here, although where I live now I do have a parking space... you have to park them…you have to wash them…you have to pay the insurance and things like

this. If I need these cars, I go visit family or do something, I can just rent one for the day…It's a whole lot cheaper" (P-1;I-1). Another participant who grew up in the community said she did not have a car and never learned to drive because "pretty much anything that I need is here. That's one of the reasons I never needed to drive. But if I need to go shopping it's a block away, I work a block away, I mean stores are two blocks away. I mean I don't need it" (P-22;I-1).

5.1.3 Being Attracted to Social Connections in the Community

Participants were attracted to the community for the social relationships that they had developed. Participants described being raised in the community and having developed close relationships to friends and family. For these reasons participants felt the community was their home. As a result of these descriptions given by participants "being attracted to social connections in the community" emerged as the last main theme of "Attractions of the Community." This theme was based on three contexts (1) being close to family and friends, (2) having lived in the community for a long time, and (3) feeling the community is my home.

5.1.3.1 Being Close to Family and Friends. Participants described family connections that they had in the community. One participants said "my grandparents lived down here as I said with the house that they had and then the last of the family died off in '91 [1991] … when they moved here, it was all kind of family [be]cause it was also some, not a direct family but family of my grandmother and all… cousins…they all lived down here; we had other family down the street. That's what the people who came over…emigrated over here did…the families kind of lived in clusters down in these areas" (P-1;I-1). Another participant said "at one point we had three generations all

within four blocks of each other, with my grandmother's house on one street. And we had my two aunts on another street. All my cousins and I grew up, together" (P-11;I-1). Another participant said "I grew up in these homes, my dad bought the home, my mom, my kids were born here" (P-22;I-1).

Participants also described friendships that they had developed in the community. One participant described friendships that he and his wife had made in the community and one reason that they like their neighborhood; "The main thing is the people, we have relationships with a lot of people on a lot of different levels" (P-6;I-1). Another participant described the people she had met in her community and at her children's daycare, "we actually love some of the people we've met in Newark. We're very happy with some of the friendships that we've really encountered like for me one of the biggest things that I actually love is the daycare that my children have been to. It's just across the street from NJIT. … It has been a wonderful, wonderful experience to meet all the people who work there. We've been extremely happy, the ladies, the few gentlemen that work there, they are all fantastic" (P-23;I-1).

5.1.3.2 Having Lived in the Community for a Long Time. Participants also described their length of residency in the community as a reason that they stayed in the community. One participant was unable to describe exactly why she has lived in the community for over 23 years, but felt that she was drawn to the Iron bound. She said "after a few years, I thought of maybe moving to a different area, but I just kept staying. I guess like anybody that, you have a certain community there that you have something in common with. I don't know what it is, but I just kept staying" (P-7;I-1). Another participant explained that she only knew this community which was why she stayed "I

don't know anything else but the Ironbound… I've never lived anywhere else. I mean I grew up in one house, and got married and then moved into another house [in the Ironbound]….I don't know anything else but that. (P-22;I-1). Another participant also felt the same way and said, "this is the only place I've ever lived so I've never been anywhere else" (P-4;I-1).

5.1.3.3 Feeling the Community is My Home. Participants felt the community was their home and they described many reasons why they did not want to leave. One participant said "the community itself, the things I was describing to you, the nice things about it we really like. I don't really know another community like that, on the east coast, tri-state area. (P-6;I-1). Participants were sometimes unable to articulate specific reasons why they felt the community was their home. One participant said "I live down here and I do not see… why I would have to move from this area that I like, to another area" (P-1;I-1). Another participant said "It's just, I am used to it. I've been here" (P-2;I-1).

One longtime resident described feeling comfortable in the community and that people were friendly even if she did not know them well. "I know a lot of people that don't even speak English and they do say hello to me every day, 'Commo esta' whatever. And we nod to each other on the street even if I don't know them. So it's nice to see familiar people. (P-2;I-1).

Participants also described feeling the community was their home because they grew up in the neighborhood "I grew up on this block…I've lived here all my life, so to me this is my area, my neighborhood" (P-22;I-1). Another participant said "this is the only place I've ever lived so I've never been anywhere else… you do see families

walking around or parents with the strollers and kids and stuff like that so it's a nice neighborhood" (P-4;I-1).

Participants were comfortable in the community, one long term participant said "I've been able to feel very comfortable with my neighbors, like the street that I lived in before, that particular street there was some neighbors that they looked after the neighborhood. So people knew each other, and I felt like they look out for one another and help one another. I felt like I was very fortunate to be there… I was there for the last, for 10 years… The neighbors were very nice in the building. (P-7;I-1).

5.1.4 Being Attracted to Affordable Housing in the Neighborhood

The Ironbound was described as affordable, both for home owners and for renters. Participants described the rents in the community as relatively affordable for a sub-urban area around New York City. Participants who owned homes also felt the community was affordable, especially if the participant had inherited their home. For this reason "being attracted to affordable housing in the neighborhood" became a theme of the attractive aspects of the life-world. Two contexts of this theme were (1) being attracted to reasonable rents, and (2) owning my home.

Participant's described the rents in the community as affordable. In terms of its proximity to a major city like New York, participants described the rents in the community as affordable. One participant who liked living near New York City said "the rents are reasonably priced here, whereas Jersey City and New York, the rents are just a little bit above my means right now"(P-6;I-1). When asked why they stayed in the community many participants said housing affordability was a main reason. One participant said "the rent is reasonable. And this place especially because my landlord

…she knows I'm here alone. She knows I've been out of work. So I think that's why I'm lucky. She's sort of raised the rent a few times, but she sort of put a lid on that now (P-2;I-1).

Another participant felt the community was popular for immigrants and that they got trapped in the community because of language barriers and affordable rents; "the rent is not that expensive…it's a little trap, especially about the language. You don't know how to communicate, how to go to other places so you stay here' (P-12;I-1) Another participant commenting on the popularity of affordable rents in the community said "the rents cheaper and they don't speak English, so they can't do anything. They don't have social security, they just can't go anywhere to rent another apartment" (P-10;I-1). One participant discussed living near the Agent Orange industrial site where the rent was very affordable. She discussed eventually moving due to the environmental concerns but said "the rent was dirt-cheap and everything" (P-2;I-1).

Participants also discussed "the ability to own a home" due to the comparatively cheaper housing price in the community and the ability to remain in the community because they did own their own home and did not have to worry about other expenses. One participant whose mother owned two, two-family homes in the community said that affordability was why he and his family stayed in the community, "well, well we have the houses. The houses are paid for and stuff in terms of that it's convenient, because we pay my mom rent instead of paying somebody else rent and right now we can't, we can't afford to buy our own house, mortgage and everything like that" (P-4;I-1). Another participant described the things she did to afford the home she owns "I like my own home right here now and like I said, I've been here since 1974, but I grow my own

vegetables…So I make my own produce, we make our own wine, my boyfriend and I, we make wine. I grow my own grapes to make wine. I've learned to live within my means, living off what I produce and whatnot" (P-18;I-1).

Another participant described the redevelopment of her current home that she and her husband conducted after they were forced out of their previous property near the new Newark Stadium due to eminent domain. She described being able to afford the property in the Ironbound "we built it, we turned it into condos, we were able to pay off all the bills, all the money we owed the bank, which was the biggest hurray" (P-8;I-1). Another participant who had been involved in politics described the history of the community as being affordable for immigrants, particularly after the riots in 1967,

> "and the Portuguese came in, not knowing what was occurring in the rest of the city and not knowing that… they knew that they could afford the homes down here so they bought the homes because they were cheap. And being an immigrant community, they could afford what they could afford, that's it. And what they did was, they stabilized the neighborhood. In fact they improved it. They start working and fixing all the homes. All the homes down here whether it's from Market St. down, they bought all those old homes that were in disrepair and they repaired them, and they lived in them, and they managed to go out and salvage the neighborhood and they built a vibrant strong community… and then they stay and it became a very viable part of the city. Over 40% of tax base in the city of Newark comes from the Ironbound. (P-13;I-1)

Another participant said she had bought a condo in the community and planned to move but could not due to the housing crash; "we bought an apartment 10 years ago and of course after we had our first kid our plan was to sell the apartment after we had the first kid and that's when the market crashed. So since then we've been stuck in a one bedroom apartment which has been really challenging" (P-23;I-1).

5.1.5 Being Attracted to the Comparatively Safer Neighborhood

The Ironbound is located within one of the most dangerous cities in the State of New Jersey and the United States (CNN Money, 2013). Resident's in the community acknowledge the high crime rate in the City of Newark and the changing crime rates in the community, but participants still described the Ironbound as comparatively safer than other communities in Newark. As a result "being attracted to the comparative safety in the neighborhood" emerged as a theme of attractive aspects of the community. Two contexts of these themes were "feeling the neighborhood is safer than other areas of Newark" and "feeling neighbors look out for each other."

The Ironbound was described as "a comparatively safer community within Newark," New Jersey. One resident said, "I think for the Ironbound we're lucky. I always joke with my friends who don't know Newark that the Ironbound is like the suburbs of Newark. Because yea, if you go to a bad area [of Newark] it's just, forget it. I think the Ironbound is a nice neighborhood. Sometimes you'll get shady people once in a while coming through from the other areas and stuff but it doesn't last. And it's pretty safe, you do see families walking around or parents with the strollers and kids and stuff like that so it's a nice neighborhood. I think it's pretty safe, this area here, once you pass the highway and you go spread out then you have to be careful where you go, but this block and this little neighborhood right here is pretty safe" (P-4;I-1). Another participant said "this areas a pretty safe area but I know surrounding areas are not… the Ironbound I think is much safer" (P-3;I-1). Participants commented, "It's fairly safe, you feel secure, we go out at night" (P-6;I-1). Another participant said "I feel safe" (P-7;I-1).

Participants described the community as comparatively safer than other areas of Newark, but they also felt the community was changing. One participant said "It's the best part, this is one of the better neighborhoods, one of the better areas in Newark, but it's changed a lot, it's what's coming in it that you see changes" (P-23;I-1). Another participant also commented on what he thought was a change in the community as less safe, but stiller safer than other areas in Newark. "The Ironbound was a crime safe free area, there were robberies, but… go straight down this street Niagara, down to the end there was a murder there a couple of years ago. You go to Andrew's Diner where I go and have lunch all the time, there was a killing right on the steps over there. There was just another one last week, a killing; there was shooting on Elm Street. And, that's got people, there's block watches that people go to, and it's got them upset" (P-13;I-1).

Participants also felt more secure in the Ironbound because people in the community looked out for each another in terms if safety. The community has been described as close knit and one participant commented that she though this also made the community safer, "I think it's a safety thing. I think that's what makes this neighborhood kind of safe is they [neighbors] do keep everything kind of close knit" (P-3;I-1). Another participant also commented on feeling her neighbors looked out for one another "I've been able to feel very comfortable with my neighbors. The street that I lived in before, that particular street there was some neighbors that they looked after the neighborhood. So people knew each other, and I felt like they look out for one another and help one another. I felt like I was very fortunate to be there" (P-7;I-1).

Another participant said "I've never feel like I can't walk from my house to my car and like I said, neighbor's kind of keep out for each other" (P-3;I-1). One participant

described finding out that her car had been stolen one morning, but still feeling safe in the community because of her neighbors.

> "I wake up in the morning to go to work, and I noticed that my car is not right in front where I left it, so I was in denial. I'm walking up and down like no it's probably here, I just can't see it. It was just taken. That's not nice, that's not a good feeling, but I still feel safe, so I don't know if it's because of the people in the buildings that I live in, I think I was always very fortunate with people that are around me. They seem very nice" (P-6;I-1).

Participants in the community felt the Ironbound was unique in many aspects such as safety, affordability and cultural diversity. These descriptions about the community were the reasons that participants chose to live in the community.

5.2 Life-world of Perceived Environmental Risks

Participants were aware of the environmental risks in their community. In the interviews they described multiple sources of pollution in the community that they faced daily. Two main themes of perceived environmental risks emerged from the data (1) being aware of environmental risks in the community and (2) realizing the harmful effect to personal health from environmental risks. Table 5.2 presents the perceived risks identified by the participants in their interviews as well as the context of these risks.

Table 5.2 Examples of Participants' Life-world of Perceived Environmental Risks

Essential Environmental Perceptions of Risks	Sources of Environmental Perceptions of Risk
Being aware of environmental risks in the community	Being aware of noise pollution from vehicles Being aware of the incinerator, industrial and transportation pollution Being aware of water pollution from drinking water, contaminated flood water and the Passaic River/Newark Bay Being aware of the cumulative impact of multiple polluting sources
Realizing the harmful effect to personal health from environmental risks in the community	Being aware of cancer from the community Being aware of hearing loss from noise pollution Being aware of respiratory conditions from pollution Being aware of children with learning disabilities

5.2.1 Being Aware of Environmental Risks in the Community

From the data, it was evident that participants were aware of the environmental risks in their community. Participants discussed their level of awareness of the community's environmental pollution and specific sources of the pollution. The level of awareness among participants varied but there were many sources of pollution in the community that most participants recognized readily, such as for example water pollution in the Passaic River and air pollution from vehicles on the roadways in the community. From the participants descriptions of the community and sources of pollution, emerged the theme "being aware of environmental risks in the community." This themes emerged from four contextual sources of pollution: (1) being aware of noise pollution from vehicles, (2) being aware of the incinerator, industrial and transportation pollution, (3) being aware of water pollution from drinking water, contaminated flood water and the Passaic River/Newark Bay, and (4) being aware of the cumulative impact of multiple polluting sources.

5.2.1.1 Being Aware of Noise Pollution from Vehicles. Participants were aware of the high level of noise in their community, caused by cars, trucks, buses, industry and restaurants. One resident that wore earplugs when outdoors in the community acknowledged "I also have earplugs...[for] the noise pollution from the trucks. My hearing loss is contributed by the trucks and sirens you hear on Market Street. It's really difficult to avoid all these noises" (P-1;I-1). Some areas in the community were described as louder than others, one participant who lived near a busy commercial street said "my room is right between Market Street and my street, Adams Street, so I can hear everything" (P-10;I-1). Another resident discussed levels of noise throughout the community and felt, "that's the one point of Newark, it's very loud" (P-15;I-1). Another resident said, "there's times I've woken up in the middle of the night because some guy's driving his car and making a loud sound that sets off a car alarm where cars are going down. So it's not like sounds of, 'I'm afraid something's happening,' it's just noisy (P-3;I-1). Another resident said, "we live one half a block from Ferry Street, so we hear the sirens going, and … once a month we were having, there were fights in the street, and shouting" (P-6;I-1).

The Ironbound is in the flight path of the Newark Liberty Airport and directly adjacent to the airport. The sounds of planes taking off and landing in the community is pervasive and many participants were aware of the noise from the planes. One resident described how it was to live so close to the airport. "Before you would hear them less than every three minutes coming, [be]cause where we live, it's in the flight path and it's very low. They used to fly very low, I mean I know people who were living on Gotthardt Street, which is a few blocks away, windows were actually vibrating in the frames from

the low flying planes" (P-17;I-1). The railroad, surrounds the Ironbound and also contributes to noise pollution. Some participants lived within 50 feet of the railroad tracks. One resident described being aware of a possible impact noise from the railroad might have on his young children. "I'm not sure at this point if it's going to affect my kids. They are so little. I think they [are] probably getting used to it, but I'm not sure [if] it's health[y] for them" (P-20;I-1).

5.2.1.2 Being Aware of the Incinerator, Industrial and Transportation Pollution. Participants were aware of the municipal solid waste incinerator in the Ironbound. Some residents who had lived in the community for over twenty years recalled being aware of the controversy surrounding the incinerator before it was built. One resident said "I did sign petitions to stop it. It didn't work and they built it." (P-18;I-1). One woman recalled the City asking for input on the incinerator before it was built, "I remember them asking the residents how they felt about it" (P-22;I-1). Another participant said, "they did send questionnaires [about whether or not the incinerator should be built] because I remember my dad filling something out with my mom about the incinerator" (P-23;I-2).

Not all participants knew of the exact location of the incinerator in the community but most were aware of its general location "it's not super close to our street… I'm not exactly sure where exactly it is" (P-4;I-1). Another resident who had lived in the Ironbound for 12 years and did not know of the efforts to prevent the incinerator from being built was aware of its location and said "the incinerator has been there forever" (P-12;I-2). Participants were also aware of the incinerator in the community and its contribution to the pollution in the area, one resident said "we have [the incinerator] plus we have all these little prisons that they keep adding on and building over here" (P-18;I-1).

Participants were aware of the historical industrial pollution in the community which contributed to contaminated soil. They were aware of specific locations where land was contaminated from past industrial activity. Participants were also aware of residential properties built on contaminated land. One resident said, "I don't know what it used to be, but the soil was contaminated so they had to stop, and the environmental cleanup is in process. And I know in the back, there used to be factories there. I think they used to make chemicals. Some kind of chemicals, and there's all new houses there now but there's no grass because there's no backyards or front lawns, because the soils contaminated so they just concreted the whole thing and they built the houses on top of the sealed dirt. So they're nice houses and they're expensive but they're on top of contaminated soil" (P-4; I-1). Another resident talked about being aware of a specific factory that had contaminated the land underneath: "the Murphy varnish factory, they can't even touch it right now…because it's so contaminated….they tried everything but nobody wants to touch it because they can't come up with a method to clean it up,…[it's] very heavily polluted" (P-8;I-1).

Residents were also aware of the air pollution in the Ironbound which is impacted by the transportation sector including: cars, buses, trucks, railcars, airplanes and ships. Residents felt car traffic and vehicle density greatly contributed to poor air quality, one resident said "there's too many cars" (P-3;I-1). Another resident echoed that feeling, "the problem with the Ironbound is …there's too many- there's a lot of automobile pollution. Because people own too many cars here and…it's a jam-packed community (P-8;I-1). Participants were not just aware of poor air quality in the community but they described what they thought was the source of the condition. One resident described seeing soot

accumulation in her home when windows were left open, she said she thought it came, "from the asphalt and I think the trucks and everything and cars" (P-12;I-1). Another resident described smelling exhaust from planes over her home, "there are some days that you do smell the fuel from the airplanes" (P-19;I-1). Residents were also aware of pollution from the railroad and one resident who lived adjacent to the railroad said, "the railroad is right there. Right across the street…I think those train[s]…they are old and sometimes I see they pass by, it's a lot of smoke coming out as well" (P-20;I-1). Another resident said of the general condition of the air in the community "we are pretty sure that yeah, the air quality is not the best" (P-23;I-1).

5.2.1.3 Being Aware of Water Pollution from the Passaic River/Newark Bay, Contaminated Flood Water and Drinking Water. All participants interviewed either knew of the contamination in the Passaic River or perceived that the River was contaminated. One resident who had lived in the community his whole life said, "from the day you get here, when you first ask about the River – I'm 44 years old. The first day, I knew the River is off limits, it's contaminated in a really bad way, there's carcinogens in there….I don't think you could hold anyone else responsible for someone else's ignorance" (P-5:I-2). One participant said, "I would never go near the Passaic River. I look at it and it's murky and dark and I'm just like, god only knows what's in that water' (P-3;I-1). One participant was aware of the contamination of the River and felt that current industries located along the River were still contaminating the water "I have a strong feeling that they [Benjamin Moore Paint and other industries] cannot be doing good things into the River. They have to clean whatever they do in the River. PSE&G is just on the River, as well. And I don't know what PSE&G would be doing but

I'm sure that they can come up with something, not that they would, but I have a feeling plenty of the companies that are just there on the river, it's an easy way to just clean whatever you need to clean or just get rid of some of the compon[ents]… and it won't be traced" (P-23;I-1).

Participants were also aware of flood waters being contaminated in the community. One participant described repeated flooding near her place of employment, "I remember walking through flooded waters when I worked on Wilson Avenue. And my boss used to give us plastic bags to put around our feet …by the time we waddled through, if it didn't break, whatever chemicals that were in there, ate that plastic bag" (P-18;I-1). Another resident discussed being aware of industrial pollution and contamination in the Passaic River, "I would hesitate to move into some part of the Ironbound where that… that is closer to the Passaic river, on the east side, closer to the Passaic River down there. I might hesitate to move down there because of the industrial climate down there, and the pollution" (P-6;I-1).

Some participants also perceived the drinking water to be contaminated. One resident described a terrible smell from her tap water "there are times even the tap water will have such a horrible smell, it will smell like when you give your dog a bath that wet doggie smell. I mean usually during the summer you'll have that smell" (P-22;I-1).

5.2.1.4 Being Aware of the Cumulative Impact of Multiple Polluting Sources. Participants were aware that the community had multiple sources of environmental risks, including, noise, light, air, soil and water pollution. One resident said "it [noise] bothers me, the sounds… all the sounds around, the cars and the planes… the trucks, busses, cars. It's very loud" (P-15;I-1). One resident said, "between the congestion and then the

trucks, we got the airport too, and all the factories, and then the incinerator, and you're driving on 1&9 or on the highway and you see like huge white clouds coming constantly at a smoke stacks…from the incinerator and these other buildings. I think that it's just a constant flow of white smoke going straight to the air" (P-14;I-1). Another participant said "it's a lot of traffic. I think it's a lot of pollution as well. Because this area it's already affect[ed] with the industry first, industry and then with the trains…and a lot of traffic - a lot of trucks in the railroad, and … the planes as well. And I think they can do a lot of pollution" (P-20;I-1).

Residents were aware of the industrial history of the community. One resident said, "a big part of the country has never seen… never will see the industrialization that Newark had" (P-5;I-1). Another resident said "the Ironbound is the most industrialized part of Newark, historically but those industries have been dying, so you have lots of room for new industrial type ventures that nobody…no other community would put up with in their back yard. And we have so much stuff in our backyard already and yet they keep coming back to putting more stuff in our back yard….so they built the incinerator in our neighborhood. And Hess is putting…some giant transfer station in the Ironbound now….on the Newark Bay" (P-16;I-1). Another resident reinforced this view. "The Ironbound section had two jails, an incinerator, a methadone clinic, the lowest amount of green space per capita in the state of New Jersey" (P-5; I-1).

When residents were asked if they thought the Ironbound was less or more polluted than other surrounding communities, most said worse. "I think it would be worse in this section because of the fact that we have all the-, that we have this incinerator burning back here. Not only that, but this is the main drag. A lot of the trucks

that come through here, come over here from the Pulaski Sky, the Turnpike. All that pollution, from the cars, that debris, emissions. So I think we have that much to fear" (P-18;I-1).

5.2.2 Realizing the Harmful Effect to Personal Health from Environmental Risks

Participants were aware of the poor environmental conditions in the community, and they realized their community had or could impact their health. Residents were aware of the environmental risks in the community from air, water, soil and noise pollution. Participants discussed conditions such as asthma, respiratory problems and cancer among their concerns from their environment. From this data emerged the second perception of risk "realizing the harmful effect to personal health from environmental risks." The context of this theme emerged from four instances where the participants discussed: (1) being aware of cancer from the community, (2) being aware of hearing loss from noise pollution, (3) being aware of respiratory conditions and (4) being aware of children with learning disabilities.

5.2.2.1 Being Aware of Cancer from the Community. Residents discussed their awareness of cancer from pollution in the community. Many residents spoke of cancer that they knew of personally or in other members of the community. One resident described her own experience with cancer, "I had a form of cancer that they said they didn't know where it came from, it's not like say breast cancer. The doctors looking and he's like well it's very rare and not many people have that, but you're ok we got it all, your fine. What are you supposed to do? Like ok it could have been anything, it could have been working in a school system, in a school that's old and could have had asbestos. It could have been working with the chemicals that we had to use back then for making

prints, when used to have to use these old fashioned copiers, and the printing fluid, and whatever. It could have been a lot of things. It could have been the environment growing up, but whose going to say" (P-22;I-1).

Many residents expressed confusion and suspicion regarding cancer in their community. One resident said, "lung cancer, pancreas cancer, stomach cancer, my neighbor passed away with stomach cancer. And he never smoked in his life, making me ask the questions, why cancer is something so present when it wasn't that present 10 years ago. [Maybe it] has something to do with the soil, the environment, the air, it has to" (P-12;I-1). This same resident described discovering recently that the building next door to her office in the Ironbound was built on contaminated land. She said "I just figured it [that the building next door was contaminated] out after two years [of] working for them and I said why …and I looked at the paperwork and I saw the contaminated soil. It made us nervous, and people ha[ve] cancer now, every day. Some people look healthy and then they all of a sudden have cancer, and you say oh, how this can be? Where do I live right now? Is it contaminated soil?" (P-12;I-1).

One resident spoke of hearing about a cancer cluster in the area that concerned many residents. Members of the community were told that an investigation would be conducted to investigate the cluster. "I've known people who've been told… that the land that they are on is polluted. But I can't go out and tell you facts, I can't give you an address, but they do exist. People have been told that. You have right here on Sonny Street, there was a cluster of cancer a number of years ago when Martinez was still councilman. And they were go[ing to]… investigate but you never heard another word

about it… They didn't do anything about it. In fact, they went out and built homes over there" (P-13;I-1).

Newark has one of the highest concentrations of contaminated industrial sites in New Jersey (NJ DEP, 2014) and participants expressed concern regarding soil contamination. One resident said, "There have been studies about the industrial areas [and pollution] down here... from this area and cancer. It's been linked" (P-2;I-1). Another resident who worked as a teacher's aide discussed how she had observed her students who were sick and had lived on houses built on contaminated land. "There is contaminated soil down going toward South Street. They say that they were building houses there a couple years back, and they were telling people, well you can't dig, I don't know how many feet, two feet, three feet deep because the soil [is] contaminated, but people are buying these homes and they are living there with their kids, and a lot of those kids come to these schools and that's where you see the kids that are coming in sick" (P-22;I-1). One resident said, "the Ironbound [has] one of …the highest rates of cancer in kids" (P-8;I-1).

5.1.2.2 Being Aware of Hearing Loss from Noise Pollution. Participants were aware of the noise pollution in the community and the impact noise had on their hearing and health. One resident that wore earplugs when outdoors in the community described his awareness of the impact of the noise on his hearing, "my hearing loss is contributed by the trucks and sirens you hear on Market Street. It's really difficult to avoid all these noises" (P-1;I-1). Other residents described their concern over noise from the community and how it affected their sleep on a regular basis. "I have to sleep with earplugs…because my room is right between Market Street and my street, Adams Street,

so I can hear everything" (P-10;I-1). Residents described the community as noisy from many sources, "it [noise] bothers me, the sounds… all the sounds around, the cars and the planes… the trucks, busses, cars. It's very loud" (P-15;I-1). One resident explained his concern for his young children from noise pollution from the railroad. "I'm not sure at this point if it's going to affect my kids" (P-20;I-1).

5.1.2.3 Being Aware of Respiratory Conditions from Pollution. Residents realized that the pollution in the community contributed to or caused health conditions. The exhaust from vehicles was identified by most residents as the major concern and contributor to air pollution in the Ironbound. Most residents felt that vehicular exhaust, because it is so pervasive throughout all parts of the community, was the most dangerous form of air pollution. One participant described his awareness of pollution from vehicle exhaust; "every time I go through the truck or the bus [exhaust, when] … I'm walking down the street, and they're idling, I can smell it and [I] pick up [the smell], and I feel that it affects me. I feel that if there's maybe enough of it you are going to develop lung cancer like smokers do" (P-1; I-1).

Participants perceived that the pollution in the community contributed to allergies, asthma and respiratory problems. Allergies were identified by many residents as a health concern from the community. One resident that works at Port Newark said "a lot of people, everyone is always complaining about allergies. You can't complain about allergies when there's no grass and there's no trees around. You're surrounded by black top, and metal, and concrete. Sometimes they complain about teary eyes or stuffy nose[s] and like I said, you can talk about the pollen count but when there's no type of foliage for miles …"(P-14;I-1). Another resident described her own recent allergies and what others

in the community have experienced. “There are people that I knew who didn’t have allergies before [living in the community] and have them now. So there has to be a change somewhere in order for this to happen.” (P-17;I-1).

Participants were aware of the impact of pollution on asthma. One resident that is a teacher in the local Ironbound elementary school described what he perceived as an increase in the rate of asthma among his students. “In school we notice that a lot of the kids have asthma and stuff like that. And I’m like how do all these kids have asthma and it could be because of the incinerator, all the air pollution, and stuff like that. All that toxins in the air” (P-4;I-1). Another resident said, “I know there is a cumulative effect. Abnormally high rates of asthma” (P-5;I-1). One resident that was regularly active in community issues described how the effects of air pollution on respiratory health came up frequently at community meetings, “I know it [air pollution] affects people who have trouble breathing and so forth. When we have community meetings those issues have come up, especially people with asthma and older people and when it gets hot outside” (P-16;I-1). Another resident with a young child around five years old said he knew of many children with respiratory problems “I know from my son's class, from the last school season, [there] was like five that I know [had] the same [respiratory] problem (P-20;I-1). This same resident also attributed the air pollution to his sinus problems; “I think that's the cause [of my sinus problems], the air pollution. Because I think [for] five years now, sometimes once in a year, in the beginning of the summer, I feel bad. I feel very bad because of [my] sinus[es] and I think because each year, it's getting a little more.”(P-20;I-1).

5.1.2.4 Being Aware of Children with Learning Disabilities. Participants were aware of vulnerable people in the community, among them children and the elderly who were more disproportionately affected by environmental pollution. Participants were aware that children in particular were more affected by environmental risks in the community. A few of the participants had young children or worked with young children on a daily basis. One resident that worked as a teacher's aide said she noticed children who lived on properties that were built on contaminated soil were more often sick than other children "you see the kids that are coming in sick… we have three year olds coming in, and now that's where you're seeing that (P-22;I-1). The same participant also added "we have a lot of kids coming in that are autistic, a lot. More I would say through the years, within the last maybe ten years we've noticed a lot of kids coming in with, even with the asthma" (P-22;I-1).

Another resident in the community that works as a teacher discussed children with learning disabilities and a possible link to the communities' environmental condition, "I feel there's a lot and, too many from what I've seen. My class, our school is [an] inclusion class so we don't have the special [education students], only special education classes. The special ed[ucation] classes are included into the general education so they do what general kids do with modifications and in my class I have about eight students who are in homeroom and the other class I see has eight or nine inclusion kids. I just think that's a lot (P-4;I-1). Another resident without small children felt that most residents in the community were aware of the negative impacts from the incinerator "I think in the Ironbound, all the immigrants in Ironbound know that the incinerator is causing heavy metal poisoning amongst them and their children (P-6;I-1).

5.3 Life-world of Being Distressed

The perceived environmental risks that participants faced in their community resulted in distress. Participants described an emotional, negative impact of living in a polluted community. Participants were distressed by the multiple sources of pollution in the community which affected air, water and soil quality. Four themes of emotional distress emerged from the data (1) being frustrated by unheard voices, (2) being angered by ongoing pollution sources in the community, (3) being sad by the lack of efficiency of personal or community effort, and (4) being disgusted/disappointed by the current condition of the community. These themes emerged from specific examples (contexts) described by the participants which is further identified following and in Table 5.2.

Table 5.3 Examples of Participants' Life-world of Emotional Distress

Essential Themes of Emotional Distress	**Thematic Context of Emotional Distress**
Being frustrated by unheard voices	Being frustrated by the lack of opportunity to notify Government about environmental concerns Being concerned that Government corruption prevents environmental improvement Being frustrated by the lack of regulatory and policy enforcement
Being angered by ongoing pollution sources in the community	Being frustrated that the community is stigmatized and taken advantage Being angered by illegal dumping and littering Being frustrated that the Passaic River continues to be polluted
Being sad by the lack of efficiency of personal or community effort	Being frustrated that residents are apathetic toward their community Being frustrated that existing community action is not effective Realizing that working with others collectively will have a stronger impact
Being disgusted/disappointed by the current condition of the community	Being disgusted by soil contamination Being disgusted by the Passaic River's contamination Being disgusted by the smell of the community Being disappointed by the lack of park and open space

5.3.1 Being Frustrated by Unheard Voices

Participants felt that their concerns about pollution sources in the community were not heard by community leaders and those with the power to improve the conditions. The participants felt 'frustrated,' 'angry' and 'mad' that their attempts at improving the community were ignored. Participants felt that the Newark City Government was unresponsive to their efforts at community environmental improvement, through their direct contact with City officials, through demonstrations, or signing petitions. Participants described frustration by the lack of response by the Local, County, State and Federal Government to the multiple pollution sources in their community. Participants gave numerous examples of feeling, ignored, neglected and dismissed regarding their attempts at community environmental improvement. From these examples and the emotional content of descriptive quotations such as "they don't care," "they won't get back to you" and numerous participants conveying feelings of being "unheard," it was clear that this was an emotional theme shared by the participants. From this data emerged the first emotional theme of "being frustrated by unheard voices."

After further data analysis, in which I contextualized the essential theme "being frustrated by unheard voices" it was clear that there were specific instances regarding the feeling of being unheard from which the theme took shape, these were the thematic contexts. Three thematic contexts were identified from "being frustrated by unheard voices:" (1) being frustrated by the lack of opportunity to notify Government about environmental concerns; (2) being concerned that Government corruption prevents environmental improvement, and (3) being frustrated by the lack of regulatory and policy enforcement.

For the participants "being frustrated by unheard voices" was a thematic culmination of instances in which they attempted to interact and improve their community but realized they were not recognized by their City Government. The first thematic contexts which emerged from feeling unheard was "being frustrated by the lack of opportunity to notify Government about environmental concerns." A review of the data showed examples in which participants felt that the City Government was unapproachable. This was further reinforced by examples of the City not having a good webpage, which did not allow methods of leaving electronic messages for officials, or specific departments, "you can't really even go into City hall website… there's nothing available, you can't even pay your taxes through the online or anything, it's just things for you to read (P-22;I-1). Participants described instances of being "hung up" by officials when they did make phone calls to City Hall to complain.

Another thematic context that emerged from the analysis of "feeling unheard" from the participants was "being concerned that Government corruption prevents environmental improvement." When participants conveyed "feeling unheard" during an interview, they were asked to explain why they felt this way or what they felt was responsible for what they perceived to be the actions by the Government. Participant's responded that they perceived that the City Government was corrupt. The feelings of corruptions that were perceived were often described as pervasive and deep seated in the history of Newark City politics. There was clearly a feeling as one participant noted "it's sad but that's just how it is" (P-22;I-2).

The third thematic context which emerged from the theme "being frustrated by unheard voices" was "being frustrated by the lack of regulatory and policy enforcement."

Participant's described a lack of enforcement of City laws and regulations as being responsible for their frustration at being 'unheard.' In the data, numerous examples were given by participants regarding illegal dumping and the perpetrators of these acts. Participants also described minor incidents where they notified officials regarding code enforcement and the response or lack of response that they received.

5.3.1.1 Being Frustrated by the Lack of Opportunity to Notify Government about Environmental Concerns. The placing of the municipal solid waste incinerator in the Ironbound was a source of frustration by residents who felt that they were unable to voice their concerns regarding the incinerator. One woman described how community members organized when the incinerator was proposed, "believe me we were fighting it. Like there were like tons of meetings. XXX can tell you about all the meetings we had. We went to…council meetings, even. And they wouldn't let people talk. It was like they would shut you down. A few people got up to talk, and then that would be it" (P-2;I-1).

Residents also felt that their efforts to oppose the incinerator were ineffective and that opposition was sometimes 'pointless.' One resident felt the local government did not consider the community's concerns with regards to building pollution contributing facilities in the Ironbound.

> "I believe that when the Government's involved, that when your local government, if they want something put up, you can stand up there with signs and protests, I honestly believe if they have something planned and they want something up, it's going up. So to me, I think, you're wasting your time standing out there to protest, because, it [the incinerator] went up, and those people who didn't want it, and said it was health concerns, sure I believe there are health concerns, but can you do anything about it? No" (P-9;I-1).

Another resident said, "I mean I did sign petitions to stop it. It didn't work and they built it…. I don't think it really helps. You can sign all the petitions you want, they're still

going to do what they want to do" (P-18;I-1). Another resident described numerous attempts that she had made to make phone calls to City Hall to ask for assistance with environmental conditions in the community, she said "you can't really make a phone call to the City Hall, because they won't care. I mean half the time you put the garbage out and they won't even pick it up" (P-22;I-1). Another participant commented on attempts that she made to contact the City about environmental concerns, "It just sucks. It just, it's one of those things, what's the point? You can complain [to City Hall] you can talk to people but it's going to go in one ear and out the other" (P-3;I-1).

One woman recalled the City asking for input on the incinerator, but she felt their canvassing of the community was only a formality. "I remember them asking the residents how they felt about it, but I think it was just pretty much a done deal…I think they just do the paper work of saying well we are [going to] see what you want to do, and if you're ok with it or not, but then at the end it's [going] to be" (P-22;I-1). Another resident commented on the mood of the City when the incinerator was built, she said "It's like quality of life in Newark especially at a certain time, wasn't a priority for anybody in Newark…anybody in Government in Newark. They didn't care. (P-2;I-1).

5.3.1.2 Being Concerned that Government Corruption Prevents Environmental Improvement. The sense of frustration was also attributed to what participants perceived as corruption in Local, County, State and Federal Government. In particular participants felt that the City of Newark had an extensive history of corruption that would take a long time to remedy. Participants were concerned that corruption prevented environmental improvement in the community. Regarding the incinerator one resident said, "that's a big company Covanta… a big company that makes all of the right political

contributions to the … politicians and the … political organizations, so they kind of protect themselves" (P-I; I-1). Resident's felt that the incinerator was placed in the Ironbound because if its EJ characteristics: "what had been proposed by Governor Christie Whitman…was an incinerator in each county. But it seemed that the only people that got incinerators were Newark, Ironbound, Camden, and I think Warren County, and that was it … a lot of the rich areas, like where she [Governor Whitman] comes [from], Bedminster and Franklin Lakes never got their incinerators which was one of the things that people … complained about. It's the idea of trying to fight it, again how the politicians as we all know - everyone complains about - how they are manipulated by industry and the campaign donations and things like that" (P-1; I-1).

One resident felt corruption was widespread and that bribery was common place, "With the Police in Newark, I don't think anything would be done (about littering/illegal dumping) They don't care….If you bribe them, their like, "Oh okay." I don't think they care about the Ironbound. I don't think so, because they're [residents of the Ironbound] immigrants" (P-10;I-1). Regarding the Superfund site of the former Diamond Alkali/Shamrock property that produced Agent Orange, one resident said,

> "They could have prevented that [dioxin contamination] but the company was so greedy because the engineers said that for $100,000 we could have built the processing plant that would have gotten rid of the dioxin, you would not have had that problem, but if the company says no, they figure they can get away with it. The DEP was not doing anything about a lot of the enforcement of the environmental rules, it was known" (P-1; I-1).

Participants were asked about why they believed the Government could not effectuate environmental progress in the community. One resident responded, "overwhelmingly it's corrupt… even the people who want to do the right thing can't do the right thing, because, the bad guy is pushing them so hard so they're afraid for their

job. They're afraid for their position, so even though their heart is in the right, they're shackled by that and there aren't many of those people, most people just don't give a damn." (P-19;I-1). Another resident alluded to what many other participants felt was an entrenched corrupt political system in Newark. "I think there are so many people in the City [government] that I don't even know how they got their positions, and some of them probably shouldn't even be in there. They just don't care" (P-22;I-1).

5.3.1.3 Being Frustrated by the Lack of Regulatory and Policy Enforcement. Residents also gave many examples of the lack of enforcement in their community. They felt that much pollution was caused as a result of the lack of enforcement of existing laws by Police and the City Government. Residents felt that their concerns about pollution in their community were largely ignored by their Government and Police. Participants were frustrated by the ineffective regulatory and policy enforcement, including pollution from vehicle exhaust, chemicals and illegal dumping. One resident said "the trucks have the engines running all the time for the air conditioning or heaters [in the truck]. I'm choking on the fumes, I'm always calling the police [to get rid of the trucks] but I'm always having [a] hard time to get them" (P-1;I-1).

One resident described efforts community members made to complain about a gas smell on their street and how they tried to persuade the City to fix the gas contamination, she said

> "Years ago there was a gas station across the street, their tanks broke, if you go on that corner you smell, you'll smell gas, you'll smell a gas smell, that soil is contaminated. People complained, neighbors complained, the residents complained about it,… somebody started some kind of petition, and everybody signed, it was mailed out, and we never heard anything of it. Then they built that big building that's there, but you will still smell stuff when you pass there, it comes out from the ground, from the sewer vents there, you'll smell it, I mean it's a heavy smell it smell like gas. It's

> a very bad smell, the City has to know about that, people complained, there was nothing done about it and a building was built on that soil" (P-22;I-1).

One resident believed that the lack of enforcement of idling laws encouraged vehicle idling in the community. He said, "The thing that angered me was that the Police would not respond. I called several times to the Police and they would not respond and they talk about they have ticket quotas. They could have come down and give[n] that ticket…it takes a minute. And the DEP has written regulations when they give ticket[s] for idling and pollution, the community gets the money. So it seems to me that it would be a win-win situation. So if you do enough of this you would see how fast this would stop" (P-1;I-1).

Illegal dumping was a concern for residents, many of which felt that the response to illegal dumping by the City was insufficient or nonexistent. One resident said "I think that there's the lack of enforcement, [be]cause people actually drive into the City and down by Magazine Street, down past where the highway is, people actually come and they dump the garbage. It pisses me off, because I don't go over to their place and dump on them, why are they coming here? Because they can get away with it, they're not go[ing to] get in trouble" (P-13;I-1). Another resident said "I've seen a mattress on 1&9 when you come out of the [Pulaski] Skyway. I'm about to take the exit for Newark. Tires and stuff like that or hub caps. Of course these things are going to make me angry because if I see it, every day for a week. You think someone important that has control over the stuff hasn't seen it and chose not to do something about it?" (P-14;I-1).

Another resident felt there was no code enforcement; she said "no code enforcement, I've actually had a meeting with the woman who's responsible…for the East Ward and I actually had a meeting with her because there was all these ridiculous

violations that were going on, petty stuff, people should get tickets for. And the meeting, the majority of the meeting involved her telling me how tired she was and how… the City demands too much from her, and there's too much, too many responsibilities and …how she feels bad for the person, that is I don't know if that person has any money, and I feel bad for giving the person [a ticket]" (P-19;-1).

5.3.2 Being Angered by Ongoing Pollution Sources in the Community

Residents expressed anger and frustration about ongoing pollution sources in the community. The strong emotions articulated in response to pollution were often expressed during or after residents had taken actions to fight or express opposition to pollution. During interviews participants mentioned ongoing sources of pollution in the community affecting air, soil and water quality. Many participants were angered by what they believed to be sources of pollution that had been allowed to exist and contaminate the community when they could have been eliminated or improved. From this data and the emotions expressed emerged the second essential emotional theme "being angered by ongoing pollution sources in the community."

The context of this emotional theme emerged from the participants descriptions of polluting sources in their community and the strong emotions that they felt in response to these sources. Three of these sources of distress towards pollution in the community were (1) being frustrated that the community is stigmatized and taken advantage of; (2) being angered by illegal dumping and littering; (3) being frustrated that the Passaic River continues to be polluted.

Participants felt a sense that the Ironbound was stigmatized or taken advantage of by the City, which resulted in the numerous sources of pollution that have existed in the

community. Residents felt that the immigrant community, which often cannot vote due to their illegal status or do not vote, results in a weak political force which may have otherwise prevented the siting of the municipal waste incinerator and other polluting industries. Participants questioned "why" the Ironbound was the site chosen when such polluting projects were proposed in Newark or Essex County. From this data it was clear that "being frustrated that the community is stigmatized and taken advantage" was a context of the essential theme "being angered by ongoing pollution sources in the community."

The second context that emerged was "being angered by illegal dumping and littering." The pervasiveness of illegal dumping and littering in the community was identified and discussed by participants. Residents described attempts that they made to improve the illegal dumping through removing it themselves, or notifying City officials of garbage in their community. They were frustrated that their attempts at improvement were short lived because more garbage would often appear quickly after they cleaned. Residents questioned the lack of garbage cans, or the reasons that their fellow residents and outsiders littered in the community.

The third context of the theme to emerge was "being frustrated that the Passaic River continues to be polluted." The Passaic River and its condition was acknowledged by all participants. Participants were angered that the River was a resource that they were prevented from enjoying. Participants questioned why the cleanup of the River was still ongoing when the contamination began over 30 years ago. The River was often referred to as "disgusting", "dirty" and "gross." From these emotions it was clear that "being

frustrated that the Passaic River continues to be polluted" was another context of theme "being angered by ongoing pollution sources in the community."

5.3.2.1 Being Frustrated that the Community is Stigmatized and Taken Advantage. The municipal solid waste incinerator was a pollution source that invoked anger. One resident said," we were having an argument with Solomon, BPU commission. We told them let's put [the incinerator] in Bedminster, or Franklin Lakes or Mendham. We were really angry that they're still dumping stuff [garbage] here and getting away with it" (P-1;I-1). The residents were also angered by what they perceived as being taken advantage of by the City as one participant commented. "So they built the incinerator in our neighborhood. Hess is putting some giant transfer station in the Ironbound now [for crude oil]…and people are concerned about oil spills...on the...Newark Bay. Because we don't have the [political] clout that people …have in Union County or Clifton, we get to have the oil transfer station. That's unfair and a lot of people are angry about it" (P-16;I-1).

Another resident discussed the immigrant population of the community as a target for politicians when the incinerator location was chosen. "So they need an incinerator for Essex County, and they will go out and build in an urban area with a dense population in a neighborhood that couldn't defend itself that nobody could listen because nobody spoke their language…Now that's not burning Ironbound garbage. And what does the Ironbound get for the pollution? Do we get a subsidy on our garbage? Do we get any lower rates? Do we get anything? No, we don't get anything. It pisses me off because, they don't have enough respect for the Ironbound" (P-13;I-1).

Residents felt that the Ironbound was home to numerous polluting sources and that their community was often targeted by developers and Government as an easy location for more polluting industries. One resident described the frustration she felt that another polluting industry was proposed for the Ironbound. “I just know that if they have to put it [another proposed medical waste incinerator] somewhere it’s like, we already have enough…. When I think about the fact that, that’s [municipal solid waste incinerator] already there, why would you even think about putting another one?” (P-17; I-1).

The incinerator in addition to increasing to the poor air quality in the Ironbound also brings increased truck traffic, for trucks transporting municipal waste to the incinerator, trucks disposing of the ash waste and other commercial traffic necessary to run the facility. Many residents expressed anger at the burden that the Ironbound bears through the incinerator which burns garbage for New Jersey and other surrounding states. The burning of garbage at the incinerator increases the emissions from the incinerator which contributes to reduced air quality. There are five municipal waste incinerators in the state of New Jersey. The Ironbound is one of two that does not have an updated emission control system, known as a baghouse, which has the ability to reduce hazardous air emissions. One resident said,

> “Sometimes I come into [the] New Jersey turnpike, I work sometimes in New York and then I come by [the] George Washington Bridge. I see it's a lot of smoke in the air. I see a lot of smoke in there and all the airplanes go by. Another day I was right behind three trucks, three garbage trucks… from New York to that incinerator in Newark. And came straight into the incinerator. Straight into that garbage area. It's very annoying for me. I feel sad because I feel, why? All the garbage come[s] from New York, from the other state[s] … to our city. It make[s] more air pollution for [us]. That annoy[s me] because the city, [is] already big enough [to run the] incinerator, and [garbage still] come[s] from…other state[s]?” (P-20;I-1).

Vehicular exhaust was another pollution source that elicited strong feelings from residents and reinforced a feeling among participants that the community is stigmatized. Truck traffic and subsequent exhaust is a significant source of air pollution in the Ironbound, from transportation to the Airport, Seaport, industries and the incinerator. Truck idling is also prevalent due to a lack of parking in the Ironbound. The lack of parking which is a result of improper land use planning results in double parking and frequent truck idling. One resident said, "between the congestion and then the trucks, we got the airport too, and all the factories, and then the incinerator, and you're driving on 1&9 or on the highway and you see like huge white clouds coming constantly at a smoke stacks …from the incinerator and these other buildings. I think that it's just a constant flow of white smoke going straight to the air. It makes me feel pretty angry" (P-14;I-1).

Another resident added, "It's not just trucks at the pier. There's other large heavy machinery that have all kinds of exhaust coming out of them. I don't even know if there's any kind of regulations out there. They're big trains or these smaller versions of cranes called straddles where they're mobile. They bring the containers to the truck drivers on the line while they are waiting and then move them around the yard. Those things just sheer black clouds coming out of them somehow. I don't know if there's any kind of regulations on the emissions on those things either. It gets me aggravated because with all the money that's generated …[you would] maybe think that they would put a little more development into making it a safer environment" (P-14;I-1). This theme of being victimized as a result of a lack of political voice was reiterated by many residents who felt their own political leaders could not prevent the locating of polluting sources in the community.

5.3.2.2 Being Angered by Illegal Dumping and Littering. Illegal dumping and littering was another source of pollution that elicited anger from many residents. Resident's described how they were unable to prevent illegal dumping even when they notified the Police or the person committing the illegal dumping. When asked how she felt one resident said, "Mad! It pisses me off that people are doing this. People pull up their cars at two or three o'clock in the morning and pull out all this stuff out of their cars and you hear them dumping it in the dumpsters in the housing projects across the street" (P-18;I-1). Another resident commented on the pervasiveness of illegal dumping throughout the community.

> "It's [illegal dumping] everywhere, it's everywhere, yeah it's really bad. The suburbanites are huge contributors to the illegal dumping. I've seen them. They'll pull up and I've seen men in suits go to their trunks, pull out two bags and drop them, on the side walk. Right here, yeah right here. When I lived on McWhorter Street the same thing. The amount of Christmas trees that they would dump here, tires, just open up there trunk on their way to work. [It makes me] very angry, very angry, we've yelled at them" (P-19;I-1).

Another resident explained his amazement at the amount of illegal dumping, "It's a big problem, big problem… I see, especially by Rome Street and San Francis. Another day I saw … a lot of couches, mattress[es], lot[s] of things underneath … the bridge. And I was, like, this is insane. It's like, [even] animals [don't] do that. I don't know how people do this. Because we live here, we have so many place[s] where we can go and dump the garbage. (P-20)."

Participants believed that illegal dumping and littering was exasperated in the Ironbound because of a lack of enforcement, which encouraged people from other communities to illegally dump their garbage in the Ironbound. "People come from other parts and dump their garbage here…It used to get me upset, but now I just don't bother to

get upset anymore because I'd be upset all the time. I say, "Oh my God!" and I pick it up and throw it in the dumpster" (P-8;I-1). One home owner described her constant struggle to keep the outside of her home clean. She described complaining to the City about her garbage not being picked up without any response.

> "You can't really make a phone call to the City Hall, because they won't care. I mean half the time you put the garbage out and they won't even pick it up. They are very bad as far as picking up the trash. We have days that are for recycling and say, Thursday morning is plastic and stuff like that. If the guy is picking up the trash and five or six plastic bottles fall out, they leave it there. If he decides he's tired and he doesn't want to pick up your garbage, your garbage will stay there, so you have to bring all that garbage back inside, because they just don't care either. In the winter it's the worst, in the winter half the time you can't park on the street because of the containers of plastic jugs that are outside, you squish them with your car tires. Because they just want to get done doing what they need to do and if it falls out of the truck. It fell out of the truck and it stays there. So it's disgusting, it really is…I mean it's upsetting, I'll go down, when we go out and we come home, and we are coming down, [Route] 21 you look at the garbage it's sad… It's upsetting" (P-22;I-1).

5.3.2.3 Being Frustrated that the Passaic River Continues to be Polluted. The Passaic River was identified by most residents as polluted and undesirable. One resident saw dumping into the River by her former employer, "I personally think that a lot of the companies that are along the edge, I think they- everybody dumps right into the River, illegally. I think they do it on purpose. They don't give a- they don't care. They dump. I think they all dump in there. I've always had that feeling. A couple times I was working at XXX, I used to see they would dump stuff. I would say, "What are you doing here?" He'd say, "Oh nothing, just don't say anything. Nobody caught us." I said, "But I saw you do it. It's illegal. You're not supposed to be dumping in there" (P-18;-1). One resident discussed the plans by a large oil company to build a power plant on the River in the Ironbound," Because we don't have the clout that people let's say have in Union

County or Clifton. We get to have the oil transfer station [power plant]. That's unfair and a lot of people are angry about it" (P-16;I-1).

Another resident discussed cleanup activities that he had participated in on the Passaic River, actually pulling out large pieces of trash, such as refrigerators, microwaves, etc. and he said "it upsets me that people let things get that bad and, factories and business and its money over the safety or the health of the environment and the people" (P-4;I-1). Participants were asked if they would ever go into the River and the participants who were asked responded 'no.' One resident said, "That's horrible [Passaic River]. I don't think the quality of the water… I would never go near the Passaic River. I look at it and it's murky and dark and I'm just like, god only knows what's in that water" (P-3;I-1). Another resident discussed his disappointment that the River could not be used more by the community; "the pollution of the water of the Passaic River… and the Newark Bay… prevents it from being used for recreational purposes….and that's something that I am very much in support of, trying to reduce pollution and cleanup pollution that's there so that people can use the River for recreation. Because that's a resource that we are denied. And as an architect and someone who has traveled around the world I see what great things people have done with their waterfronts, that we haven't done" (P-16;I-1).

5.3.3 Being Sad by the Lack of Personal or Community Effort

Most participant's felt that there was a sense of apathy among fellow community members towards the neighborhood and efforts to improve the environment. Participants who made efforts to improve the environmental conditions of the community were often discouraged when neighbors did not assist or were not interested in becoming involved in

environmental improvement activity. Participants who were long time community residents felt that the neighborhood had changed to a more transient community where people lived for a short period of time before moving on, which contributed to the lack of interest in the community. From these descriptions "being sad by the lack of personal or community effort" emerged as another essential emotional theme of distress.

The context of this essential theme emerged from the participants descriptions of polluting sources in their community and the strong emotions that they felt in response to these sources. This theme also emerged from the attitudes which participants described when discussing the community, neighbors, their elected officials and City employees. Three sources of distress were the context from which emerged the third essential theme: (1) being frustrated that residents are apathetic toward their community; (2) being frustrated that existing community action is not effective, and (3) realizing that working with others collectively will have a stronger impact.

Participants were distressed by how their neighbors and community members maintained the environment in the community. Participants felt that residents did not care about the community, either because they did not have a strong attachment to the community or because they were frustrated that the community was not improving. Participants discussed efforts that they had made individually or efforts to work collectively to improve environmental conditions. From these descriptions it was clear that "being frustrated that residents are apathetic toward their community" was a context for this theme.

Participants were asked about community action and their participation in such community action to improve their environmental conditions. One source of pollution in

the community which brought up emotions of distress was the placement of the municipal solid waste incinerator in the Ironbound. Participants discussed efforts they had made to oppose the project and their feelings of disappointment when the incinerator was still built. Participants also discussed trying to work in groups to improve the environmental conditions by forming neighborhood groups and they expressed feeling frustrated when neighbors would not participate. From these descriptions it seemed "being frustrated that existing community action is not effective" was another context of the theme "being sad by the lack of personal or community effort."

Participants realized that collective action was the most effective means of bringing about environmental change in the community. While collective action was not always effective, participants felt that it was necessary if the desired environmental improvement was going to succeed. Even participants that worked in collective action for environmental improvement that was not successful felt that collective action was more effective then working alone, especially in a community such as the Ironbound, with low political turn out, a large immigrant community and numerous sources of pollution. From these stories "realizing that working with others collectively will have a stronger impact" became the last context of the theme, "being sad by the lack of personal or community effort."

5.3.3.1 Being Frustrated that Residents are Apathetic Toward their Community. When participants were asked about the community's environmental conditions, many felt that there was a pervasive attitude of indifference. One resident echoed this feeling of apathy by saying "it's like you get to a point where nobody is going to do anything [about the pollution] so why even bother? That's how I feel, nobody cares" (P-3;I-1).

Another resident gave the following response when asked why he thought there was such poor environmental good will, “I think the apathy of the people around here, they just don’t, they don’t have pride in their community” (P-4;I-1).

The sadness expressed about community apathy towards environmental improvement was vocalized by one resident regarding the multiple pollution sources in the community. “I personally think they just put too much in the Ironbound. We have [the incinerator] plus we have all these little prisons that they keep adding on and building over here. Why always the Ironbound? Why couldn’t they put [the incinerator] in another- I guess it’s just because… a lot of people just don’t care” (P-18;I-1). When probed regarding why people “don’t care” one resident explained that she felt people had no pride in their community; “people don’t have pride in what they have anymore. You see a lot of, like I said years ago there was more pride in what you had, you took care of it…people swept more, they were more conscious about how they put the garbage out. Now, it’s, they don’t care…they have …these newspapers on the corner, nobody has a say in it, if it can stay there or not, they just come and plop them down, then people come and get these paper things out. … no one cares anymore and …for this area it’s sad, it’s upsetting actually” (P-22;I-1).

5.3.3.2 Being Frustrated that Existing Community Action is Not Effective. One resident who was concerned about environmental conditions explained that he had been trying to get a group organized to improve community environmental conditions. He explained what he believed to be the challenges to organizing for the environment in the Ironbound. “So far we haven’t been able to get a group from this area organized. So there is a little bit of apathy. People just don’t have time for it. Which for me is

disappointing…we could have a much better impact here if people were going around and looking [to improve]… the small quality of life things" (P-16;I-1). These comments reiterated what many other participants felt regarding the best way to achieve community environmental improvement, which most believed was through community organization and a strong political voice.

The City was blamed for contributing to the lack of community effort with respect to littering. One participant said, "If the City had not taken steps for it [preventing littering by installing garbage cans], from the citizens' perspective, why should they ... only some people would hold it [trash] and just walk [un]till they get somewhere with the garbage can" (P-21;I-1). Many others also explained that they did not know who was responsible for preventing littering "I complain to my landlord when my neighbors don't take care of their garbage or I talk to them, but I don't know where to complain in Newark about this. And I don't think people care, actually" (P-10;I-1).

One resident that is active in community politics spoke about his attempts at organizing to bring about environmental improvements. He discussed the challenges of working with mostly immigrants that have few means.

> "Whenever an environmental issue comes up, you'll have a community meeting and you'll have people show up. As soon as the danger passes they go away. It is a handful of people that are really concerned about it. The reality is given again the nature of the community, people are thinking about their next steps, right. A lot of people see this…. part of their life and they are looking to move on anyway. One of the challenges of the Ironbound is people when they are here…too many of these people aren't looking at this as their lifelong residence so they don't invest themselves emotionally in staying. That is one of the reasons these things happen in the first place" (P-5;I-1).

5.3.3.3 Realizing that Working with Others Collectively will have a Stronger Impact. During the interviews many participant's described how they felt it was

more effective to work in a group to bring about environmental improvement in the community. Participants blamed the poor environmental conditions in the community on the lack of political involvement. One resident said, “I think that if more people were involved, we could probably affect more changes. But, unfortunately it isn’t happening” (P-11;I-1). This lack of political involvement elicited strong emotions from participants that had taken the time to be politically involved. One participant involved in politics said, “it irritates me and makes you angry, without question. But, I understand it and it really is a verification that democracy works and it’s not a spectator sport. You have to participate, if you don’t get involved, we ended up getting … the government that we deserve in a certain extent. And if people don’t participate, don’t understand…don’t appreciate the importance of participation that happens. It doesn’t mean that life necessarily… is just, but these are the realities of the democratic process” (P-5;I-1).

Residents were disappointed in their community officials who they felt were responsible for the lack of community improvement. One long-time resident when asked what he felt was the cause of the environmental conditions said, “It's the fault of the officials in charge but it's also a lack of responsibility by the community. Like we were talking about earlier, people need to advocate, people need to understand the community but the way people are, like I said before, they're always on their own thing and things like that don’t get done” (P-21;I-1).

5.3.4 Being Disgusted by the Current Condition of the Community

Participants described conditions in the community as disappointing and disgusting. Residents felt that there were too many sources of pollution within the Ironbound that still needed to be addressed. Participants discussed that the small community of the Ironbound

of Newark was the site for a disproportionate amount of polluting sources, such as polluting industries, the Municipal Solid Waste Incinerator, the Newark Liberty Airport, major highways and the seaport, Port Newark. Participants were very distressed by the known sources of pollution in the community and the result that it has had on the soil, air and water quality in the community. Form these comments "being disgusted by the current condition of the community" became the last essential theme of emotional distress.

The context of the essential theme "being disgusted by the current condition of the community" was ascribed to the following four emotional responses towards environmental risks in the community: (1) being disgusted by soil contamination; (2) being disgusted by the Passaic River's contamination; and (3) being disappointed by the lack of park and open space.

Participants were disgusted by the condition of land in the community that was identified as contaminated and allowed to remain as such for so long. Although the contaminated land was a concern for residents from a health perspective as previously discussed, contaminated land was also a concern from an environmental well-being perspective, such as contributing to blight and an overall disappointment with the community. These comments formed the first context of the essential emotional theme "being disgusted by soil contamination."

The Passaic River was the one site in the Ironbound which almost unanimously received strong negative emotions when discussed. Participants described the River as "disgusting" and they were concerned that the water was "dirty." Residents were disappointed by the garbage that they often observed in the River and they could not understand why the historic contamination which made the River a Federal Superfund site

had still not been cleaned up after 30 years. Multiple participants expressed disappointment at what they felt was an unused resource. Participants felt they would never see the River cleaned in their lifetime. From these feelings and stories emerged the thematic context “being disgusted by the Passaic River’s contamination.”

Participants expressed disappointment by the lack of park space and open space in the community. Participants described not enjoying the three parks in the Ironbound due to their proximity to heavily congested roads and poor access to and from the parks. Participants also discussed the collective action that was organized when the local Government wanted to turn Riverbank Park into a baseball stadium. Residents discussed being disappointed with the overbuilding in the community and the type of overbuilding that eliminated green space. From these comments “being disappointed by the lack of park and open space” was identified as a context of the theme “being disgusted by the current condition of the community.”

5.3.4.1 Being Disgusted by Soil Contamination. Historical industrial contamination was a contentious issue that elicited strong emotional responses from residents. The predominate contamination from historical industrial practices in the Ironbound is contaminated land. One resident who is an elected legislative official said “there’s no question that more needs to be done [about pollution], there are environmental issues here, predominantly because of contamination left behind by former manufacturing companies” (P-5;I-1). Residents who are aware of historical industries which left contamination behind in the community expressed concern about the land, “my concern is old industries, chemical industries that they just shut the doors but everything's in there. The soil in there, it's in very bad shape. I'm concerned about that, too” (P-20;I-1).

Longtime residents were more aware of past industrial pollution in the community and they were also more aware of the extent of the contaminated sites throughout the community. One resident explained, "they found dioxin at the Community Center over by Roam Street where they have the hockey and ice skating rink. They found it under there too. So that place was closed for a long time too. So people had to fight that too to get that reopened for the neighborhood, for the kids. So that took a long time too to get it reopened. It was always something" (P-2;I-1).

The remediation of historical industrial sites was also disappointing for participants, many of which were suspicious as to whether the cleanup was done properly or to the extent that was necessary. A one resident said, "pollution here in its totality is worse than most of the cities in the country because of the fact that we are very densely populated and this is old industrial territory with a lot of contaminated lands. A big part of the country has never seen,… never will see the industrialization that Newark had" (P-5;I-1).

One popular trend in places with high industrial soil contamination is the practice of capping, which is considered to contain the contamination or hazardous substances in place and prevent possible exposure to the contaminated land while allowing the land above the cap to be used for other purposes. Capping is common in the Ironbound and residents that were aware of the practice also expressed concern. One resident of over 15 years with an architectural design background felt capping was an inadequate form of land remediation, she said, "all that I can really say is visually now, what they've done, their mediation of it, which was to cap it, and put three or four pathetic planters on it, it's pretty pathetic…I don't consider capping taking care of it properly, [they] pushed it under

the rug, or put a concrete rug over it, and maybe someday, someone will deal with it, but no it hasn't been really dealt with (P-19;I-1). Another resident said "I'm not quite sure if we're cleaning these properties up at the levels that they should be. There's no question about that. So I do have some concerns about the capping practice" (P-5; I-1)."

5.3.4.2 Being Disgusted by the Passaic River's Contamination. An unusable resource in the Ironbound due to its contamination, the Passaic River and the Newark Bay were a source of disappointment for many residents. One resident described volunteer cleanup efforts that he participated in, on the River. "I think we had like three tons of garbage that we pulled out [of the River] at one time because the stuff is heavy, we pull[ed] out the big stuff and there was more, it was like never ending. And then you pull out the solid stuff and you still don't know what chemicals [are] in that stuff, mercury, whatever's in there. I mean it upsets me that people let things get that bad" (P-4;I-1). Another resident said "the other thing …that bothers me a little bit is the pollution of the water of the Passaic River and the Newark Bay that prevents it from being used for recreational purposes… because that's a resource that we are denied" (P-16;I-1).

Residents, both long and short term knew the Passaic River was polluted and not suitable for recreational purposes. One short term resident said, "I think the River's bad. It's in bad shape because of pollution. It's like I said… from industries, a lot of chemicals in there, right? I don't think they can fish anymore in the River. I feel very sad to see the River like this" (P-20;I-1). Another resident who knew little about the River said "I am sure it's very polluted because…people who live here forever, they never even fish in the River, swimming, forget about. I believe they don't fish there because they don't trust the water" (P-12;I-1). Residents were asked about the future of the River and its potential

future use but many were skeptical that the River would ever be cleaned up. One resident said, “if there was anything that could be done, they should do it, but with something that big, I’m not sure. There’s only so much cleaning you can do. I don’t know if you take …stuff out of the River… but as far as the water, the water is already contaminated” (P-14;I-1).

Residents were disgusted with the condition of the Passaic River. Few participants expressed a desire to spend time near the River or Newark Bay. “I would never go near the Passaic River. I look at it and it’s murky and dark” (P-3;I-1). Another resident said “I wouldn’t swim in that if you paid me a billion dollars. No. Whatever they can do, should be done. There’s no reason for the water to be that way. It’s disgusting” (P-14;I-1). Another resident said, “it [river] looks so filthy, dirty” (P-9;I-1). One resident commented on cleanup activities occurring at the River, she said “it's [Passaic River] just gross and disgusting and I think there is plenty more that could be done to it” (P-23;I-1).

One resident retold a story he had heard about the contamination of the Passaic River. He said, “I don’t know if it's true but I heard a story that some guy was drunk, ran over somebody and then I think he was just so upset or whatever that he just drove his car into the river. When they found his body two days later, his flesh was already getting decapitated or whatever. The water was that vile and toxic that you could see his chest. Who knows the truth of that story but I wouldn’t doubt it sometimes, because I know it's that polluted” (P-21;I-1).

Residents were asked about the effects of Hurricane Sandy and other storms that caused flooding from rain and from the Passaic River overflowing. One resident discussed what she would do if she experienced flooding. “Everybody has carpet. It’s

go[ing to] be soaking wet. It's go[ing to] be so disgusting. Definitely [I would] …move out. I would never stay here if some kind of water from that River [come] out of my house, I [would] have to move out" (P-12;I-1).

5.3.4.3 Being Disgusted by the Smell of the Community. Residents were also disgusted by what they described as the "smell" of the community. Most residents could not pinpoint where the smell originated or if the smell was from multiple sources. One resident said, "a lot of time there's disgusting smells, there used to be I don't know where it's coming from, it smells like dead fish sometimes, but I don't know where it comes from… I don't know who to complain to. I don't know where the smell is coming from. Is it coming from the River? Is it coming from the incinerator?" (P-9;I-1). Many residents described the difference in smell of Newark and other areas which is pronounced when you leave and return to the City. "Some of my friends when they get home can smell we're in Newark already because it smells bad. I don't think because I'm now used to [it], but I don't notice anything different. But, a lot of people complain about it" (P-10;-1).

Another resident said, "I guess that's probably why when you come off of the plane people are like, "oh you're in Newark [be]cause it smells." It has, it's the smell, almost everybody will say that, oh welcome to Newark it smells" (P-22;I-1). One resident described how the smell in the Ironbound near the stadium can be so bad that he cannot play basketball until the smell passes, "I go to Ironbound stadium to play basketball right on the side of the stadium they just abandoned. Sometimes it smells weird there; you get a scent of a really nasty smell and you can't play after a while….It's a really bad smell, it's disappointing" (P-21;I-1).

5.3.4.4 Being Disappointed by the Lack of Park and Open Space. Open space and the lack of parks in the Ironbound was discussed by participants as a disappointment; participants felt park and open space was a basic need in any community. The participants discussed the history of the Parks in the Ironbound and individual and community action that had been conducted to save parks and create new ones. Participants also discussed the quality of the environmental conditions in the Parks, such as the soil and air quality as well as congestion from vehicles around the parks. Open space and maintenance of greenery around the community was considered poor in the community and participants felt that the City made little effort to plan for maintenance of open space and park space in the Ironbound.

Some long term participants described the fight to save Riverbank Park which was almost taken from the community as the site for the Newark Bears stadium: "they tried to take away Riverbank Park and turn it into where they have the stadium now, and the young people really don't know that. When we hold our events down there, we try to tell them the park was almost taken away, they have that park. They can't take these parks for granted" (P-1;I-1). Another participant described the history of Riverbank Park and the disregard the City had for its historical significance, "there is not enough open space… not enough parks. And…the situation was dire before they, again the ICC worked for years to get the Riverbank Park fixed up….The soil was contaminated. And it was unusable and it was shut down …so the only park in the Ironbound was Independence Park and it's just not even close to enough for the population we have here." (P-16; I-1). Another participant described his anger at the attempt to take Riverbank park,

> "they wanted to build a baseball stadium [at Riverbank Park], and in a community that was predominately immigrant, and predominately a soccer playing community, and they could do that because the people down here didn't vote. They were foreigners. They didn't participate in the democratic process. The leadership down here, and in the City, there were no consequences for them until they actually tried to take the park, and a number of people were galvanized and came together from disparate groups and whatever. They formed a group, and they went on to successfully fight to save the park, and that fight went all the way up to the White House, to the Interior Secretary Babbitt, who went out and finally stopped the destruction of Riverbank Park because the parks down here were Olmsted parks [American Landscape Architect Fredrick Law Olmsted], and there had been federal money given to repair the parks a long time ago. And since they're historic, and the federal government had given money for park space they couldn't touch it" (P-13;I-2).

Once it was determined by Federal Law that Riverbank could not be taken and used to build a baseball stadium, the park was required to be cleaned up because the ground at the park was determined to be contaminated. One participant expressed her frustration and disappointment at the cleanup process of Riverbank Park which was cleaned by removing the contaminated soil and replacing it with 'clean' soil, which was also shortly after determined to be contaminated as well. "How can this ground be ever, ever getting any better if the people who are in charge of making the laws, applying the laws are not even trying to protect one park when it's time to even refurbish the park to make it look nicer and then you realize that even the topsoil that was put in it was dirty again and contaminated" (P-23;I-2).

Congestion around the parks was a complaint by participants. One resident said "the problem with the Ironbound is …there's a lot of automobile pollution. Because people own too many cars here and … it's a jam-packed community. I go for a walk around the park, I'm walking the greens there but every once in a while I have to [cover my mouth], or sometimes I put a scarf around my nose because I'm exercising and I'm pulling all that stuff [in] (P-8; I-1). Another resident who liked the parks said, there [are]

actually two parks on either side of Raymond Boulevard, which are beautiful parks, but to go, it's so undesirable to go there just because of the speed of those vehicles. Going to those parks…even though they are the nicest parks that we have in the Ironbound, I avoid them. (P-19;I-1). One resident explained that she disliked Riverbank Park because "it's in the middle of the most busy streets in Newark and it's very noisy there" (P-10;I-1). Another resident described visiting the newly renovated waterfront park in the Ironbound which was completed in 2013, she felt the Park was poorly planned and expressed astonishment at the poor accessibility to and from the park.

> "The other day we went there for a picnic … it was a nightmare to cross the street afterwards to try to get back to where we wanted to get back to. There is barely any way to cross the street. From one end of the park you can only cross in one specific area … it's a park that's obviously very narrow, but very long because it follows the River… you have to risk your life out of four lanes to cross to be able to go. There was even a cop car that came in as we were all crossing with children and everything because we're like we need to cross the street. The cop car just stopped and the guy, instead of putting his flashing light on he [said] "this is not a crosswalk, you're not allowed to cross here." We are like, "We are aware of that. Where is the crosswalk to leave the park?" (P-23; I-2).

Participants also felt the parks were crowed and overused. One resident described her experience in the park, "the sidewalk around the parks are just as dirty as the sidewalks everywhere else. People with their dogs messing, the sidewalks….The parks are overused. We don't have enough parks, so when you go to the park, there's 50 million other people around you going in the park at the same time. It's not that moment where you can feel aloneness" (P-8;I-2). Another resident said "there's only two parks here, 21 acres total, until now, they just built a new waterfront park which was fought for by the community" (P-13;I-2). Overcrowding at the schools and safety for teachers causes school parks to be used for vehicle parking and not for playing. One mother said, "we signed the petition here to allow the kids to have a playground at the local school

because the playground has been taken over by the parking lot for the teachers" (P-23;I-2).

One participant described the opening of the small waterfront Park in the Ironbound in 2013. He described the difficulty in building the park and attempts to improve the waterfront with more open space. "It took the ICC at least ten years of lobbying to push that through. (P-16;I-1). Another resident described the lack of park and open space for school children, "there is no playground anywhere. There is nothing for children to play. In the neighborhood we have one which is Independence Park a.k.a. Mosquito Park, but the playground sometimes it's still broken, it hasn't been fixed, there is some inscription from gangs on the ground, the slightly matted ground and stuff like that… there is nobody to take care of these things from an environment standpoint. I love the fact that when you come on 21 [Route 21] many years ago they planted some trees, there is all along NJPAC to make it look very pretty. Beautiful, There is some trees, some rose bushes at the bottom, but there is nobody taking care of them" (P-23;I-2). The lack of maintenance in the parks and other green areas in the community was reiterated by other participants, who felt this lack of maintenance by City officials contributed to an overall lack of pride by residents.

5.4 Life-world as the Context of the Experience

The life world of participants living in an EJ community and being exposed to environmental risks was discussed in this chapter. The essential structure of the experience of living in an EJ community which will be further discussed in Chapter 6, emerged from the context of the life-world. From the life-world emerged three main themes (1) attractions of the community (2) perceptions of environmental risks and (3)

emotional distress from these perceptions. These themes were based on the participants' descriptions of their community. For each of the three main themes, data was further delineated into essential themes and their contexts.

Three essential themes of attraction emerged from the data (1) being attracted to one's native culture (2) being attracted to the convenient location of the community, and (3) being attracted to established social connections in the community.

Two essential perceptions of risks in the community emerged from the data (1) being aware of environmental risks in the community and (2) realizing the harmful effect to personal health from environmental risks in the community.

Four essential emotional themes of distress emerged from the data as the life-world of participants in the EJ community (1) being frustrated by unheard voices, (2) being angered by ongoing pollution sources in the community, (3) being sad by the lack of efficiency of personal or community effort, and (4) being disgusted/disappointed by the current condition of the community.

The participants two perceptions of environmental risks in their community (1) being aware of environmental risks in the community and (2) realizing the harmful effect to personal health from environmental risks in the community reflected the participants awareness of pollution sources in the community. Participants who expressed perceptions of environmental risks realized that they needed to protect themselves from environmental risks in their community by reducing their environmental risks such as noise, air, water and soil pollution. "Reducing environmental risks" was an essential intention in the experience of living in an EJ community and being exposed to environmental risks that emerged from the participant's perceptions of (1) being aware of

environmental risks in the community and (2) realizing the harmful effect to personal health from environmental risks in the community.

The essential emotional theme "being frustrated by unheard voices" reflected the participants feeling of neglect by their community and Government. The essential emotional theme "being angered by ongoing pollution sources in the community" reflected the participants' perception of the state of their community as a polluted environment with many sources of contamination. Participants who were "frustrated by unheard voices" and "angered by ongoing pollution sources in the community" struggled with the best method to effectuate environmental improvement. Participants were attracted to the community and were "trying to work with the community to improve environmental conditions" in order to bring about positive change, which was another essential intention of the experience of residents in an EJ community.

The essential emotional theme "being sad by the lack of efficiency of personal or community effort," reflected the sense of frustration that participants felt when they perceived their efforts to be ineffective. Participants also discussed "being disgusted/disappointed by the current condition of the community." They felt that there had been little progress in effectuating improvement, but participants still felt that they had a sense of responsibility to themselves. Participants were also attracted to the community for cultural reasons and its unique characteristics and this made want to improve the community. For many who felt this way "taking individual action to improve the community's environmental condition" was important to augment community environmental improvement. "Taking individual action to improve the

community's environmental conditions" was an essential intention of the experience of reducing environmental risks.

CHAPTER 6

THE EXPERIENCES OF REDUCING ENVIRONMENTAL RISKS IN AN ENVIRONMENTAL JUSTICE COMMUNITY

A phenomenological analysis of the experience of reducing environmental risks in an EJ community will be presented in this chapter. The participants described their intentions, or consciousness of effort, and demonstrated their actions regarding how they structured their experience of reducing their environmental risks in an EJ community. In the preceding Chapter, I described the life-world of residents living in an EJ community encompassing attractions of the community, the participants' awareness and perceptions of environmental risks and the emotional responses of distress to these sources of pollution as the context of the experience of reducing environmental risks. In this Chapter I will present the experience of reducing environmental risks in an EJ community which emerged from this life-world.

The experience of participants in an EJ community was delineated from essential intentions to contextual intentions and further to intentional actions, that is, from general to specific. The essential intentions represent the universal or general experience shared by the participants and the contextual intentions were the specific contexts of each essential intention. The intentional actions are specific to individual participants for a contextual action, but they may also be shared by more than one participant. Three essential intentions with 13 contextual intentions and 52 contextual actions emerged from the data. The three essential intentions were: (1) reducing environmental risks, (2) participating in community action to reduce pollution, and (3) taking individual action to

improve the community's environmental conditions. Table 6.1 presents the three essential intentions, 13 contextual intentions and 52 intentional actions.

Table 6.1 Intentions of the Experience of Living in an EJ Community

Essential Intentions	Contextual Intentions	Intentional Actions
(1) Reducing environmental risks	(1a) Trying to protect hearing from noise pollution (1b)Trying to prevent sleep deprivation from noise/light exposure (1c) Trying to decrease asthmatic/allergy/respiratory exacerbation from air pollution (1d) Trying to protect children from pollution (1e) Trying to prevent exposure to water pollution (1f) Trying to prevent exposure to contaminated soil	(1a.1) Wearing earplugs when inside/outside (1a.2) Listening to music to drown out noise (1a.3) Keeping windows in home closed (1a.4) Keeping air conditioner one to drown out noise (1a.5) Avoiding congested and loud areas outdoors (1b.1) Using light blocking blinds to prevent sleep deprivation (1b.2) Using earplugs to sleep (1b.3) Sleeping with music/TV to drown out louder sounds (1b.4) Keeping windows closed (1c.1) Closing home/car windows (1c.2) Taking alternative routes to reduce exposure to exhaust fumes (1c.3) Staying indoors (1c.4) Using air filters indoors/covering mouth outdoors (1c.5) Using medication/seeking medical advice (1d.1) Avoid the Passaic River/Newark Bay, eating the fish, swimming, walking near the Passaic River (1d.2) Avoiding areas/parks surrounded by congestion (1d.3) Keeping windows closed (1e.1) Avoid, do not eat fish, swim or play near the Passaic River/Newark Bay (1e.2) Using filters on tap water (1e.3) Buying bottled water for consumption (1e.4) Avoid standing water from floods in the community (1f.1) Avoid being near polluted soil /Brown fields/toxic sites (1f.2) Not eating vegetables from soil in the community (1f.3) Avoiding the area of the community near the incinerator (1f.4) Moving from the community to avoid pollution
(2) Trying to work with the community to improve environmental conditions	(2a) Trying to work with community organizations to raise awareness of environmental pollution (2b) Participating in community action to reduce pollution (2c) Trying to save parks/create more green space in the Ironbound.	(2a.1) Participating in community truck counting activities (2a.2) Taking air samples with community groups (2a.3) Signing petitions to ensure improved environmental conditions (2a.4) Attending protests to prevent polluting sources in the Ironbound (incinerator, medical waste incinerator, Bayonne Bridge raising, Hess power plant, etc.) (2b.1) Participating in tree planting activates (2b.2) Participating in community food co-ops (2b.3) Cleaning the Passaic River (2b.4) Working with the ICC/IBID to clean litter/plant trees/keep the neighborhood clean, green and safe (2c.1) Signing petitions/attending protests to save Riverbank Park (2c.2) Working with the ICC/Port Authority to create a new Park
(3) Taking individual action to improve the community's environmental conditions	(3a) Trying to keep my property/community clean (3b) Trying to prevent air pollution near my home (3c) Trying to plant/maintain greenery on/near my property (3d) Trying to organize community action (3e) Notifying Government about environmental conditions	(3a.1) Picking up garbage and litter in front of my property (3a.2) Trying to prevent others from littering on/near my property/community (3a.3) Posting signs outside the residence to ensure environmental conditions (3b.1) Asking truck drivers not to idle (3b.2) Asking people not to litter (3b.3) Voting in local elections (3c.1) Planting trees, bushes, flowers in the community and around my home (3c.2) Asking neighborhood businesses to plant trees (3d.1) Trying to organize a neighborhood watch group (3d.2) Organizing environmental improvement activities with neighbors (3d.3) Making a movie about saving Riverbank Park (3e.1) Reporting truck idling/noise pollution, illegal dumping, damage to green space/ trees in the community (3e.2) Speaking with local police about environmental violations (3e.3) Participating in City planning and zoning meetings (3e.4) Signing petitions (3e.5) Attending protests

6.1 Essential Intentions of the Experience of Living in an EJ Community

The following is a description of the three essential intentions of the experience of living in an EJ community and reducing environmental risks. Each of the three essential intentions emerged from the main themes of the life world of living in an EJ community as previously discussed in Chapter 5. The contextual intentions of reducing environmental risks emerged from specific intentional actions participants took on a regular basis.

6.1.1 Reducing Environmental Risks

The essential intention of "reducing environmental risks" emerged from the essential emotional themes of "being frustrated by unheard voices," "being distressed about personal health." Participants were frustrated by the lack of opportunity to notify Government about environmental concerns and they were concerned that Government corruption prevented environmental improvement in their community. Participants also felt that their voices were unheard as a result of a lack of regulatory and policy enforcement in the community.

As a result of feeling ignored and neglected by their community leaders when they attempted to voice their concerns about the environmental conditions in the community, participants were forced to protect themselves from what they perceived as environmental risks in the community. The frustration that participants felt from their failed attempts to be heard by community leaders motivated them to take responsibility for their health and to protect themselves from pollutants.

When participants were asked what motivated them to reduce environmental risks in their community, residents had similar remarks concerning their health. Participants were concerned with their hearing, developing respiratory problems and the possibility of

long term health effects such as cancer from environmental conditions in the community. It was clear from these comments that the residents' main intention in preventing environmental risks was by actively trying to reduce these risks. The participants discussed the need to reduce exposure to noise, light, air, water and soil pollution in order to protect their well-being.

The participant's main intention of living in an EJ community was to reduce environmental risks through numerous means such as: keeping windows in their home and vehicles closed; participants also avoided being outdoors on days when pollution outside seemed high and they avoided heavily polluted areas such as those near the incinerator and heavy industrial areas; and participants tried to reduce their exposure to water pollution by avoiding flooded waters, the Passaic River and Newark Bay.

The surface water was acknowledged by all participants as polluted and necessitating caution. Participants avoided eating fish from the Passaic River, swimming in the River or participating in activities near the River. Some residents even questioned the safety of drinking water in the community and used water filters or purchased bottled water for consumption. Participants with children or those that cared for children actively protected them from environmental risks. Children were prohibited from activities in polluted areas, such as congested areas with vehicle exhaust. Children were prohibited from playing in or near the Passaic River. Participants kept windows closed to protect children from air and noise pollution.

Soil contamination was also a source of pollution which necessitated caution and action by participants. In order to protect themselves from soil pollution residents avoided known areas with contamination, such as industrial areas near the municipal solid

waste incinerator. Residents did not plant vegetables in their gardens or avoided gardening in the soil in the community. Residents who were aware of residential properties built on contaminated soil said they would not live on such properties and avoided them. Six contextual intentions became apparent as the basis of the essential intention of "reducing environmental risks." The participants reduced their environmental risks by (1) trying to protect hearing from noise pollution; (2) trying to prevent sleep deprivation from noise and light pollution; (3) trying to decrease asthmatic/allergy/respiratory exacerbation from air pollution; (4) trying to protect children from pollution; (5) trying to prevent exposure to water pollution; and (6) trying to prevent exposure to contaminated soil.

6.1.1.1 Trying to Protect Hearing from Noise Pollution. Participants were concerned about their hearing from the many sources of loud noise in the community. The sources of noise pollution that was problematic for participants were from planes, trains, vehicles including cars, trucks and buses. Participants also complained about noise from industrial activities and general loud noises in the community from merchants and the large dense population. Participants employed five strategies to reduce their exposure to noise pollution in the community: (1) wearing earplugs when inside/outside; (2) listening to music to drown out noise; (3) keeping windows in home closed; (4) keeping air conditioners on to drown out noise; and (5) avoiding congested and loud areas outside.

The Ironbound is adjacent to the Newark Liberty Airport, an international flight center with heavy plane traffic. Residents described the noises from the planes as prevalent in the community as well as powerful. One resident said, "after a certain time at night they divert from the flight plan. And they do go over your house and sometimes you

are woken up by loud noises" (P-2;I-1). In order to reduce their exposure to noise pollution residents described wearing earplugs when they were inside their homes and even outside in the community. One participant who wore earplugs when outdoors said, "one of the reasons I have my earplugs is that I feel the noise pollution down here as well, because the trucks come by; you have the engines of the trucks, a lot of the guys down shift and you start hearing that, and I have hearing loss which I attribute partly to that. You have the sirens of all the, on Market Street, the fire engines, and the ambulances always going down that street, especially in the summer" (P-1;I-1). Some residents even wore earplugs in addition to keeping their windows closed to reduce exposure to noise pollution. "We keep the windows closed always, all the time, all the time. [We] have the windows closed, no matter if it's summer time or winter time, the windows [are] always closed, and sometimes we wear earplugs" (P-12;I-2).

Another strategy to help residents reduce noise pollution in the community was to listen to music or other pleasant sounds to drown out the outdoor noise pollution. One resident described disliking walking outdoors in the community due to the noise and she said she regularly listens to music when outdoors. I "just put my earphones on…so I don't hear anything, just… listen to music" (P-10;I-1). Another participant felt that the noise pollution in the community was no severe that even taking steps to reduce its impact was futile. He said, "I really don't know what I can do [about overhead air planes] that's the thing, it's annoying… What can be done about it? that's the thing. I tried [to drown out the noise with music] but it gets so loud that sometimes I'll just have to kind of let. I'll just have to pause the music and kind of wait for the airplane to pass" (P-11;I-2).

The strategy employed by most participants to reduce exposure to noise pollution in the community was keeping their windows closed in their homes. Another resident said she keeps the windows closed "to be safe but most of the time it is because of the noise. It is very loud, very loud." (P-15;I-2). Participants kept their windows closed in their homes regularly even in very hot conditions. If participants could not keep all of their windows closed they would strategize which window(s) were most effective to keep closed and which could remain open. One participant described how he kept a window facing the back of his home open if necessary: "we do because it's the back yard, so, it's not directly in the street, we don't get the direct smoke and stuff like that in the streets and noise so we open the back unless we have the air on" (P-4;I-1).

Another strategy to drown out noise pollution was to keep air conditioners on during the day and night to drown out noise, even if it's intended use, to keep air cool, was not necessary. One participant felt the air conditioner was beneficial for reducing air pollution and noise: "The air conditioner in the summer is good [be]cause that does filter out things. A lot of times I put it on too, not just to screen out the noise" (P-2; I-1). Avoiding congested and loud areas outdoors was also a method of reducing exposure to noise pollution in the community. One participant said "I don't like to walk there [Ferry Street] because it's a lot of traffic, a lot of people, so I just go the streets in between and I can get where I want to go. The noise, it bothers me a lot" (P-10;I-1).

6.1.1.2 Trying to Prevent Sleep Deprivation from Noise/Light Exposure. Sleep deprivation from noise pollution was a common complaint from participants. Participants described specific noises that were problematic in the community such as planes and vehicles and they also felt that the community was overall a very noisy place. One

resident said that her sleep had been interrupted often from noise pollution: "there's times I've woken up in the middle of the night because some guy's driving his car and making a loud sound that sets off a car alarm or cop cars are going down [the street]. It's not like sounds of 'I'm afraid something's happening,' it's just noisy" (P-3;I-1). Light pollution was a problem for a few residents who complained that it contributed to sleep loss. In order to prevent sleep loss residents employed four strategies: (1) using light blocking blinds to prevent sleep deprivation, (2) using earplugs to sleep; (3) sleeping with music/T.V. on to drown out louder sound and; (4) keeping windows closed.

Light in the Ironbound at night was described by some as problematic especially in regards to interrupting sleep. One participant described the numerous methods she used to prevent the light pollution at night from interfering with her sleep.

> "I have double curtains in my bedroom and the light still comes through. I just cope with it the best way I can…I put the pillow over my head, I take a sleeping pill, I take Melatonin which helps me, it's natural, it's better than the sleeping pill…There's nothing I can do about [the light], I just keep the curtains, I just put up more curtains, put up heavier curtains. Like I said, the bedroom has double curtains in there so it's very low even though it's still coming through the curtains it's very low. In the beginning when we first moved in here we had nice frilly curtains, the light came right through it and I realized I can't do this. So then I went to Ikea and I got those heavy curtains and I cut them and I redid them and now I have double curtains and I just fix it to suit my taste" (P-8;I-2).

Another participant described one specific source of light pollution from a flashing electronic sign which interrupted her sleep, so much so that she tried to contact the owner of the sign to get it turned off at night. "I've called about this dumbotron… it's really bad, the screen at the arena, it's really bad, because, the light it's consistently blinking, so even when you're sleeping you're getting effected by that, so it's very disruptive" (P-19;I-1).

Many participants used earplugs to sleep and some descried not being able to sleep without them. One participant said, "I have to sleep with earplugs…because my room is right between Market Street and my street, Adams Street, so I can hear everything" (P-10;I-1). Another resident described wearing earplugs at night to sleep "because, it bothers me, the sounds…all the sounds around, the cars and the planes" (P-15;I-1). Another participant described noise pollution from the nearby stadium as well as vehicular traffic; "we wear earplugs…at night time…because my street is Jackson Street, that's the one giving access to Harrison. We have a lot of trucks, and the stadium is right there, and game day is hard, people come up and down, and we have a lot of teenagers around. Yesterday I had to call the cops, because they, at two o'clock in the morning [were] having [a] party and drink[ing]" (12;I-2).

Participants also described creating more pleasant sleep inducing sounds to drown out the unpleasant sounds from outside that inhibited their sleep. Turning the television or a movie on was a method to help those disturbed by noise pollution. One participant said, "usually, I'll play a movie low, on my tablet before going to bed" (P-14;I-1). Another participant listened to music, she said "what I do do sometimes is I play a tape until I fall asleep" (P-8;I-2). Most participants felt that keeping the windows closed was the most effective means to keep noise and light from disturbing their sleep. One participant said, "I'm annoyed because I can't sleep sometimes. It takes some time to relax… by Market Street, it's very noisy there… so I just close my windows" (P-10; I-2).

6.1.1.3 Trying to Decrease Asthmatic/Allergies/Respiratory Exacerbation from Air Pollution. Participants felt that asthma and respiratory problems were exacerbated from air pollution in the community and were largely attributed to vehicular exhaust.

Participants employed five strategies to decrease their asthmatic exacerbation from vehicular exhaust in the community: (1) closing home/car windows; (2) taking alternative routes to reduce exposure to exhaust fumes; (3) staying indoors, (4) using air filters indoors/covering mouth outdoors, and (5) using medication or seeking medical advice.

Closing home windows and car windows when driving was a method used by participants to prevent acerbating asthma from exhaust. One resident said, "we leave these front windows closed so it [air pollution] doesn't come directly into this house or driving around if we're behind a truck or something like that we'll close the window so we don't get direct exposure to it" (P-4;I-1). Another resident with asthma said "I don't drive with my windows open because you're stuck in traffic breathing in all those fumes" (P-3;I-1). Another resident described how his family kept their windows closed in their home in order to lessen his wife's asthma reactions: "the bus stop's right on the corner so we never open the windows here because when a bus passes by, all the soot comes in. In summertime so you see it on the glass and stuff like that and we'll go outside and wash the windows and we won't realize just how dirty it actually it is because of all the soot from all the buses [be]cause you see a lot of black smoke coming out" (P-4;I-1)

Participants also took alternative routes when walking or driving to reduce their exposure to exhaust fumes. One participant with asthma said "I usually try and stay away from that [congested] area … just not to be in that area or I just kind of avoid Ferry Street all together" (P-3;I-1). Another participant said "I try to walk around when I see the traffic light, I try to avoid the trucks and pollution at that time" (P-1;I-1). Another resident said "I will walk away from it; I'm not going to sit there and breathe it. I'm not suicidal. Sometimes you just can't avoid it, you just have to sit there and wait, hold your breath. A

lot of times, I find myself, a lot of times going down I see something, I hold my breath, until I pass it, and hopefully they pass me faster so I can exhale" (P-13;I-2).

Staying indoors and staying outside of the Ironbound was an effective method for some residents trying to reduce their exposure to air pollution. "I try not to stay in this area other than to do certain things and I find myself going out more than staying in this area" (P-3;I-1). One resident described the sinus and respiratory problems that he had developed after moving into the community. He said "sometimes I don't go out. So if I think that's the better thing…I just … keep in[doors] as [much as] possible….stay inside" (P-20;I-1). Another resident with asthma said I tend to avoid areas, if I know… I'll walk in the park, but if I walk in the park it's early in the morning when there's really nobody around or more towards the afternoon when everybody's home eating dinner. I kind of try and avoid those high times. But other than that, I stay away from the air" (P-3;I-2). Later on in our discussion she added "I know when I go out in the summer it's harder for me to breathe here because there's no shade to go under to get that cool breeze or something like that. It's all humid and sticky" (P-3;I-2).

Filtering outside air was described by participants as an effective means to reduce their exposure to air pollution. One participant said "the central air has a filter so, and it's running constantly. I never ever open the windows… it's an extra bonus to have the filters that I cannot have to worry about, not only just to keeping the apartment cleaner from the outside dust, but my lungs" (P-14;I-2). Another participant pointed out her air purifier during our interview; she said "I have an air purifier right there, which I use whenever I need it. And we have central air, and the central air has a filter on it" (P-8;I-2). The same participant was so sensitive to the air pollution outdoors due to a loss of

hair follicles on her body that she said she wore protective clothing. She said, “I wear a scarf around my nose and my face to protect myself against the air pollution” (P-8;I-2).

Participants also sought medical advice to decrease the medical conditions they thought were caused by the environmental pollution. One participant described how she used medication and sought medical treatment for allergies and respiratory problems. One resident described the first onset of her allergies when she moved to the community from Brazil, “the first time I thought I was so sick, [be] cause my throat just start closing. I could not breathe and I was like, “Oh, I’m dying!” I went to the doctors, “No. It’s just allergies.”…[be]cause I never had that in Brazil…and here …my nose starts scratching…when I’m feeling really bad, I take a Benadryl” (P-10;I-1).

6.1.1.4 Trying to Protect Children from Pollution. Residents were cognizant of the harmful and disproportionate affects that pollution in the community can have on children. Children were not interviewed as part of this research but some participants had small children or knew young children in the community, other participants worked with children in the community and described how they protected them from pollution. Participants discussed three actions that they took to protect children from pollution in the community: (1) avoid the Passaic River/Newark Bay, eating the fish, swimming, walking near the Passaic River; (2) avoiding areas/parks surrounded by congestion; and (3) keeping windows closed.

Participants were concerned about the Passaic River and the Newark Bay and did not feel children should be playing in or near the water. One resident said “I feel concerned…another day [I spoke] to someone and their son, they kayaked from Kearny High School in the River. And I said, "So, that river [has] a lot of pollution... So you think

it's okay?" "Oh, yeah. I think is fine." He says, this [is] not a problem, he says his coach go[es] with them sometimes... But I don't think it's a good idea. I'm not sure [what] kind of coach is this from the high school [that] allow[s] kids to swim in the River?... I don't think they [should be] doing this" (P-20;I-1).

Some participants described seeing people fish out of the Passaic River or the Newark Bay. Participants were asked if they would ever eat fish or anything out of the Passaic River or the Newark Bay and not one participant felt that this was a good idea. One participant said "I'm not go[ing to] go into the Passaic River, I'm not go[ing to] do that, and I'm not go[ing to] eat the fish" (P-1;I-1). Another participant said "it's sad, it's very sad, because …it could be a beautiful place, [but]…you can't enjoy it, not at all. A lot of people love to fish here, especially my husband … and he's never going to fish in that River, it's dirty. I'm sure about that, it's completely polluted" (P-12;I-2). Another participant who grew up in the area described how she avoided the Passaic River in the Ironbound and near her family's home in a nearby community "It's one reason I never joined crew, [be]cause I refused to take the swim test in that water." (P-3;I-2). Another participant said "forget about it [swimming in the Passaic River], it's all green. I don't know what the hell is in there" (P-13;I-1).

Participants did not frequent congested areas with their children. One resident without children felt the community was not a good place to raise a family. She said, "you don't see kids out on their front porch. It explains it. They'd rather be inside where it's cool, where they can breathe, where they're not breathing in the fumes and stuff" (P-3;I-2). Another participant with a small child said she avoided taking her child to the parks because of the congestion, "going to those parks…even though they are the nicest parks

that we have in the Ironbound I avoid them" (P-19;I-1). One resident described the difficulty in leaving the new River Front Park in the Ironbound which was recently created:

> "You take your stroll. No, you have to risk your life out of four lanes to cross... There was even a cop car that came in as we were all crossing with children and everything because we're like we need to cross the street. The cop car just stopped and the guy, instead of putting his flashing light on he sa[id] "this is not a crosswalk, you're not allowed to cross here." We are like, "We are aware of that. Where is the crosswalk to leave the park?" And we all looked at him and we're like yes we're aware of it. Where is the crosswalk? At the end of the park when you come back towards Penn Station…there is no official crosswalk to go back from the park. There is a path that brings you from that to the edge of the park, but there is no crosswalk to cross the street….The design, it's such poor design I don't get it. I do understand that someone would actually get paid for this. It doesn't make any sense" (P-22; I-2).

One participant described how she always keeps her bedroom window closed and the bedroom of her baby's room as well. In order to avoid the air pollution and exhaust from vehicles outside her home she said "I never keep the windows open. The kitchen and bathroom, fine, but the baby's room and my room, never. She explained "you can see a dark powder…from the asphalt and I think the trucks and everything and cars…It's a dark powder' when the windows were left open" (P-12;I-1). Another participant who had a wife with respiratory problems and a baby on the way described precautions he took to keep healthy and reduce his family's exposure to air pollution." I'm pretty healthy and stuff like that, but I don't want to get sick in the future. I don't want my family to get sick and [my wife]…and then the baby … so it's just a conscious thing, to try to do my best, because I know you're going to be exposed to it [environmental risks in the community] no matter what, but you don't have to have it right in your face, you can do things to limit it" (P-4;I-2).

6.1.1.5 Trying to Prevent Exposure to Water Pollution. Participants tried to prevent exposure to water pollution in the community. Participants had four intentional actions to reduce their exposure to water pollution in the community: (1) Avoid, do not eat fish, swim or play near the Passaic River/Newark Bay; (2) using filters on tap water; (3) buying bottled water for consumption and; (4) avoid standing water from floods in the community.

Participants described how they avoided the Passaic River and the Newark Bay. When asked about the condition of the River one resident said, "that's horrible [Passaic River]. I don't think the quality of the water… I would never go near the Passaic River. I look at it and it's murky and dark and I'm just like, god only knows that's in that water" (P-3;I-1). Another participant felt all people in the community should be aware of the contaminated condition of the Passaic River;

> "there's no reason for people not to know that. I mean some of these issues with cumulative effects of industrialization, with mercury in the air, or what have, you need a certain level of sophistication, okay. From the day you get here, and the first time you ask about the River –there is no reason for anybody here- I'm 44 years old. My whole life I knew that River is off limits, it's contaminated in a very bad way, there's carcinogens in the base" (P-5;I-2).

Another resident said I avoid the River "like the plague. I wouldn't go near the River. At one time there as a whole bunch of people living along the side of the River in all kinds of cardboard boxes. I don't know how they survived the winter sometimes" (P-8;I-2). Some participants observed seeing people fishing in the River and one participant said

> "I think they're crazy if they eat it [fish from the River] because that water is so brown and dirty, you can visibly see it, and when we did a clean-up [in the River], we pulled everything out of there. We pulled out refrigerators out of there, TV's, computers, so we pulled bikes and stuff

> out of there that were rusting in the water, so I know that it's really bad, even with the heavy metals and stuff that's in the water and the chemicals. The Freon from the fridge and stuff like that and whatever's in the computers" (P-4;I-2).

Another resident felt the contamination of the Passaic River affected the land "the River, you already know that any old river like that, it looks polluted. And so when the thing rises, the pollution goes to the land, and then it settles in there. That's my guess. So I would not move to any of those low lying areas near the River" (P-6;I-1).

Some residents were concerned about drinking water in the community. In order to reduce what they perceived as a risk from drinking water participants used filters on their water. One resident said, "I'll drink filtered water and I have my fans on and my air conditioner rather than opening windows" (P-3;I-2). Another resident said "I have filters on all my taps…and I don't drink water from the sink [be]cause I think it's disgusting" (P-10;I-1). Another resident said she only drank bottled water, "I don't drink the water in Newark even though some people say it's the best water. I don't drink the water in Newark" (P-8;I-1). Another participants said, "we never drink the tap water, we used filters or buy bottle water" (P-12;I-1).

Participants described avoiding the flooded water in the community during or after storms. Hurricane Sandy occurred during the interviews and participants were asked about their feelings regarding the flooded water in the community. Participants also discussed past storm events that caused flooding and the general flooding problem that exists in the community from rain events. Participants avoided flooded waters for fear of the water being contaminated. One participant said, "I didn't walk [in flooded water after

Sandy]…the place that was flooded [be]cause I don't know. It's polluted. I don't [know if] there is any disease in the water. So I just avoid it" (P-10;I-2).

One participant involved in politics discussed his feeling about flood waters after Hurricane Sandy and the effects of the water on people, homes and the community.

> "The water that went into those basements, I wouldn't trust the long term effects. I would not have a family member live in the two residential blocks where obviously water went into those basements. I wouldn't – water's gone – we're talking about nasty level of contaminants – you're talking about paint companies, chemical companies, sewage plants, and all of that mixed together – god knows. Not to mention, where the houses are …we have contamination at the bottom of the River-- did Sandy affect it, did it spray? And they [DEP officials] said no. I mean I'm not a scientist, I can't refute it. I get asked the question [as an elected official], but I can't refute it. I'm wondering to what extent some of those carcinogens that are there and make it to one of the top superfund sites in the country. You're telling me with water going ten feet up, you're telling me nothing happened?... If somebody says well, after Sandy, – it disturbed…whatever was there, was that disturbed, did that move, did that come on land, what are going to be the effects of that?…. I would tell you any of those houses or businesses that got flooded that had significant flooding, I don't understand how those people are still there because of all the toxic mix that. Again we're talking you're a stone's throw away from a Superfund site, chemical plants containers fall over and open and what have you" (P-5;I-2).

Residents also discussed flooding in the community as a common problem in the Ironbound which has existed for over twenty years. One long term resident described working near the densely packed industrial area and the flooding that occurred in that area. "I remember walking through flooded waters when I worked on Wilson Avenue. And my boss used to give us plastic bags to put around our feet to waddle through,…by the time we waddled through, if it didn't break, whatever chemicals that were in there ate that plastic bag" (P-18;I-2).

6.1.1.6 Trying to Prevent Exposure to Contaminated Soil. Contaminated soil from past industrial practices is pervasive in the Ironbound and Newark. Participants who were aware of the contaminated soil in the community described their strategies for reducing their exposure to these risks: (1) avoid being near polluted soil/Brown fields/toxic sites; (2) not eating vegetables from soil in the community; (3) avoiding the area of the community near the incinerator; (4) moving from the community to avoid pollution.

Some participants who knew the history of the community actively avoided what they perceived to be contaminated areas, "I don't even drive down that street [area near the incinerator], except to get to one and nine to go to Jersey City, but I don't go beyond that if I don't have to… it looks like nothing but a filthy, dirty slum" (P-9;I-1)" Another resident discussed the houses that were built on contaminated soil in the Ironbound, "I wouldn't want to live there because I don't know if it seeps up and people can get cancer or sick or something like that, so, and it's a shame because the houses are, they do look nice…they're about 10 years old but at the time they were brand new and they were pricy for being here in Newark, but it's so contaminated that they had to seal the ground" (P-4;I-1). Another participant felt the Government should "not allow people to live in those areas… I really don't know how they allow people to build houses around the incinerator, because the incinerator has been there forever, the town is growing. They shouldn't allow it" (P-12;I-2).

Some participants were aware of sites in the Ironbound where the soil was contaminated and houses were built on contaminated land. They mentioned hearing of people not being allowed to have gardens in these areas. Among residents who were

aware of soil contamination in the Ironbound many said that they would not plant gardens in their yards. One resident described her garden when she lived in a different part of Newark. When she was asked if she gardened in the Ironbound she said "down here it was [a] different story. I wouldn't eat it [vegetables from a garden in the Ironbound], especially now that they made people sign a contract that you don't eat anything… so that must be the Agent Orange that's there, or some kind of horrible stuff.(P-8;I-2).

One participant lived near the Agent Orange contaminated site in the Ironbound and discussed the remediation and investigation activities that occurred. She described being told by scientists conducting sampling in the area that she should not eat the vegetables in her garden.

> "They interviewed us. They took even, one day they knocked on the door and asked if you had a vacuum cleaner...I had a garden, and I was growing tomatoes making fresh sauce and all. And I said to the guy, a few days later. I see them again, they were always around. There was always a truck around cause they were doing so much in the neighborhood. But I was right up the block. I said to him I have a garden. And he said, "Oh, no don't eat anything from there" (P-2;I-1).

One resident involved in politics said "a lot of the housing that was built in the 90s, in terms of the safeguards that were there and what's underneath a lot of the housing here, that concerns me. So I'm not comfortable with people using let's say, their backyards. Anyway what I would tell anybody here is almost…build your own little above ground pit…use your own [purchased] dirt and I wouldn't worry about the soil if you wanted a garden…. I would worry about what's underneath because of the history of the community and how much stuff lies underneath" (P-5;I-2).

Participants felt a good way to avoid contaminated land in the Ironbound was to avoid specific areas with known contamination, such as the Incinerator. Participants also

said that they would not live in the area near the incinerator. One participant said "they try to … isolate it but there's a lot of houses closer [in that area]. So I wouldn't live close to an incinerator [be]cause it's not good. But a lot of people do. It's like I think cheaper rent for them, so if they want to do that then …I wouldn't live there" (P-10;I-2). Another participant who knew of contamination in the community added, "I would hesitate to move into some part of the Ironbound where, that is closer to the Passaic River, on the east side, closer to the Passaic River down there. I might hesitate to move down there because of the industrial climate over there, and the pollution and that" (P-1;I-1).

Participants also discussed that they felt moving away from the Ironbound was the best way to avoid pollution in the community. The most discussed impediment to moving away from the Ironbound mentioned by participants was the cost. One participant with health problems discussed his children and their health and what he would do if his children became ill from pollution in the community. "I'm not sure if I … can afford some houses someplace else, but I would [be] concerned. Yeah, I'll consider moving if they g[et] health problems or something like that" (P-20;I-1). Another participant said "you can see pollution when the trains arrive. You can see from the smoke coming. Especially some trains you can see a lot of dust or I don't if its smoke but probably dust coming out of the sky… I wish I could move, but I can't, to a suburb. I don't have a place away from pollution. It's not good for your health" (P-10;I-2).

Another participant discussed living near the Agent Orange site when it was actively contaminated and being remediated. "After a while I was like, yes, even though the rent was dirt-cheap and everything, it was like I'm getting out of here. And I finally found an apartment somewhere else" (P-2;I-1). One participant discussed the incinerator

and her concern for the pollution it contributed to in the community, “that’s [incinerator] what[s] motivating us to move out of [the] Ironbound…Most of the people who have lived here… I don’t wan[t to] say most of them, but a lot of people have no choice. When you come from another country, some have been living here for a long time, you have no choice. It’s a little trap, especially… the language. You don’t know how to communicate, how to go to other places, so you stay here” (P-12;I-1).

6.1.2 Trying to Work with the Community to Improve Environmental Conditions

The essential intention of “participating in community action to reduce pollution” emerged from the emotional theme of “being angered by ongoing pollution sources in the community” and the essential themes of “attractions to the community.”

Participants were angered by ongoing pollution sources in the community and they perceived the state of their community as a polluted environment with many sources of contamination. The distress that the participants felt was managed or lessened when they were able to work collectively and effectuate environmental improvement in a group. Although not all group action produced positive results for participants, participants expressed the importance and benefit of working with others. Participants also stayed in the community because they felt the community had benefits, especially for immigrants and those with cultural interests. The attributes that made the community attractive to participants and encouraged them to remain in the community also encouraged them to improve the community through collective action.

Participants realized that living in an EJ community and being exposed to environmental risks necessitated engagement beyond their personal actions to reduce their environmental risks. Participants realized that working collectively was usually the

most effective way to bring about positive environmental change. Participants tried to work with community organizations, such as the ICC to raise awareness of environmental pollution. Participants conducted truck counts to track the amount of trucks which pass through the community and increase noise and air pollution. Participants also attended protests against polluting sources and lead the signing of petitions against environmental polluting sources. Residents also tried to work with community groups to create more green space in the Ironbound, by participating in tree planting activates. Residents also participated in community food co-ops, cleaned the Passaic River, worked with the ICC, IBID and Conservation groups to clean litter.

Three contextual intentions became apparent as the basis of the essential intention of "participating in community action to reduce pollution:" (1) trying to work with community organizations to raise awareness of environmental pollution; (2) participating in community action to reduce pollution; and (3) trying to save parks/create more green space in the Ironbound.

6.1.2.1 Trying to Work with Community Organizations to Raise Awareness of Environmental Pollution. Working with others or in a group was acknowledged by most participants as the most effective method of achieving environmental improvement in the Ironbound. Participants had the following intentional actions to effectuate improvement: (1) participating in community truck counting activities; (2) taking air samples with community groups; (3) signing petitions to ensure improved environmental conditions; and (4) attending protests to prevent polluting sources in the Ironbound (incinerator, medical waste incinerator, Bayonne Bridge raising, Hess power plant, etc.).

Participants discussed activities that they participated in to raise environmental awareness in the community. The ICC was a strong advocate of disseminating environmental information and participants spoke of specific activities that they took part in to benefit awareness in the community. Truck counts are conducted regularly by the ICC as a means to identify how many trucks pass through the community and contribute to air pollution through exhaust emissions. One participant said, "we do it I think twice a year…we count 2,000 trucks throughout the area at various places altogether in about an hour or two hours combined. I was part of the count …last time… And we were down at Stockton Street…and in that two hour period we counted 300 trucks going through that area. (P-1;I-1). This participant spoke of the importance of understanding the sources of air pollution in the community and how this could help reduce the pollution through diverting traffic in specific areas. Air sampling to identify specific pollutants in the community was also conducted through the ICC. This same participant said, "I think one of the things about taking the air samples is I've been doing here with...[the] ICC... That's some idea of seeing what's going on and where it occurs. And that's the important thing" (P-1;I-2).

Signing petitions to ensure improved environmental conditions was another method of raising awareness. Participants discussed signing petitions for preventing the incinerator. One participant spoke of how the community signed petitions against the incinerator which was not effective, "there were petitions that went around, people came to the door to sign petitions for it to not to come but either people didn't get enough, those people didn't get enough support or they just lost because the City was going to do what it wanted to do anyway" (P-4;I-1). One participant remembered her father filling out a

questionnaire about the proposed incinerator when she was younger. She said, “they did send questionnaires because I remember my dad filling something out with my mom about the incinerator. How they felt about it and stuff. Did it go anywhere? They ended up doing it anyway” (P-23;I-2).

Another participant also spoke about petitions she had signed against the incinerator and a petition to save Riverbank Park**, “**there was a lot of protests and signed petitions, and do this and let’s have meeting[s] and keep them from coming here. Just like they always try to stop everything from coming into the Ironbound section, but it never works… they put the incinerator down here back then. They had to sign petitions back then, don’t do this, don’t do that. Then let’s Save Riverbank Park, we signed petitions for that, to save the park. Everything is a petition, you sign petitions, but the politicians do half the time what they’re go[ing to] do anyway. (P-18;I-2). Another resident discussed a petition that circulated to create park space for children in community schools. “I've signed some petition in the neighborhood when I've been asked to do so…for the park. We signed the petition here to allow the kids to have a playground at the local school because the playground has been taken over by the parking lot for the teachers” (P-23;I-2).

Participants also attended protests to prevent polluting sources in the Ironbound, for the municipal waste incinerator, the proposed medical waste incinerator, raising of the Bayonne Bridge and a future Hess power plant on the Passaic River. One participant discussed how the community galvanized to oppose the municipal waste incinerator,

> “when they were first putting it up. We had a big fight over that. People, actually… down there, there’s the parkway, and they had a bridge and people actually went on the parkway and dropped a sign saying no incinerator on the bridge. They had the Newark Police out there it was really a big fight…That was a very big fight…with a lot of the community coming in, holding meetings, arguing with the people coming in…they

> were shoveling the horse pucky left and right about how safe it was. We had a DEP meeting in the hall at Essex county college…that was a big thing" (P-1;I-1).

Another participant recalled protesting the waste incinerator and trying to deal with living near dioxin contamination, "that was the like last time I protested anything … before that was getting built. But that's also when I lived by the Dioxin…they found… the Agent Orange was being manufactured down on Joseph Street. So it was like so much going on at the same time, trying to fight things" (P-2;I-1).

Another participant spoke of her dismay at the recently approved Hess power plant, "people have tried, there has been an effort to stop it [Hess Transfer Station], but they, the City, the zoning board, … the planning board, they're already in the soup, it's already, it's before it becomes official, it becomes official, the deal is done. So you can go there and you can voice it, but unless, unless the mayor doesn't want it, unless the economic development director doesn't want it, unless your councilmen doesn't want it, it's going in" (P-19;I-1).

6.1.2.2 Participating in Community Action to Reduce Pollution. Participants were asked about their efforts collectively and individually and what they perceived as being more effective. The contextual intention of "participating in community action to reduce pollution emerged from four intentional actions: (1) participating in tree planning activities, (2) participating in community food co-ops, (3) cleaning the Passaic River, and (4) working with the ICC?IBID to clean litter/plant trees/keep the neighborhood clean, green and safe.

Most participants felt group action was more effective than individual action. One resident said, "it's necessary to have collective action in anything and the only reason that

the Ironbound is what it is, is because the few people in the Ironbound that pull it together" (P-8;I-2). Among the activities that residents participated in to improve their environmental conditions were tree planting activities. One resident said, "we have the neighborhood organized and we've been planting more and more trees, and I put barrels out there [in front of her street] with flowers" (P-8;I-1). Another resident discussed working with an environmental group to plant trees in the Ironbound, "there's a New Jersey tree foundation, a great organization, and with them my family has planted about two-hundred trees…in the last three years, planted quite a few trees and we'll continue to plant trees" (P-19;I-1). Another participant was involved in a community food co-op and farmer's market which she believed raised awareness about healthy, local eating and the importance of sustainability.

Cleaning the Passaic River was also a way that participants worked collectively to improve the environmental conditions in the community. One participant discussed his Community Action Group's (CAG) efforts to clean up the Passaic River. "That's our CAG group and we have been meeting for three… maybe four years now. We got part of it [Passaic River] cleaned down at the Diamond Superfund site where they cleaned up a hot spot. And it's the idea of progressing along…doing the whole 17 miles of the River" (P-1;I-2). Another participant spoke of working collectively to clean the Passaic River in college,

> "I was in the conservation club in College …and we did two or three cleanups, with another group … and we went to a cleanup a couple times, a couple spots of the River and we pulled out things like refrigerators out of the river, microwaves… we pulled stuff out and we had tons of, I think we had like three tons of garbage that we pulled out at one time because the stuff is heavy, the refrigerator is heavy and stuff and there were a lot of us, like a hundred people, but even there we pull out the big stuff and there was more, it was like never ending. And then you pull out the solid stuff

> and you still don't know what chemicals is in that stuff, mercury, whatever's in there….I mean it upsets me that people let things get that bad and factories and business and its money over the safety or the health of the environment and the people" (P-4;I-1).

Participants also worked collectively to clean litter and keep the neighborhood clean, green and safe. One participant who taught in the Ironbound schools discussed organizing his students to participate in cleanup activities. "Earth day is coming up so we'll start doing it more, but they have groups of kids who go out and clean up supervised by teachers. We'll do cleanups and stuff like that…I know that once in a while I hear the councilman and the mayor will hold clean up days where people go and volunteer to clean up and things like that" (P-4; I-1). Another participant spoke of working with the ICC to prevent the burning of the contaminated Diamond Alkali site, "They wanted to burn it, but the community fought against it. They wanted to burn the whole damn thing and let it release in the air" (P-13;I-1). Participants also spoke about relying on and supporting community organizations to help them keep tabs on environmental improvement activity in the community. "I rely a lot on the ICC because they're on top of environmental justice issues in the City and we support them….I feel like I'm doing something good by supporting their efforts because they do know things and …[they]…keep showing support and interest to keep the ball rolling" (P-16;I-2).

6.1.2.3 Trying to Save/Create Parks in the Ironbound. The lack of sufficient park space and green space in the community was a concern for participants. Participants who had lived in the community in the late 1990's recalled efforts to save Riverbank Park from being developed into a baseball stadium and the importance of collective action for saving

the Park. One resident recalled how participants signed petitions and attended protests to effectively save the Park.

> "Years ago Riverbank Park, and the powers to be, were going to take it and destroy it and build a baseball stadium for a crony of theirs. And we the group SPARK, forced a referendum on the City of Newark, the only one that's ever been done. We stood outside and we got petitions, we got thousands, and thousands of petitions, and we forced a referendum. We had hold an election to decided what the park was going to be used for, if it was going to stay a park, or if was going to be a stadium. So this community of immigrants went out, and you go down Ferry Street every business, every window had a sign in it "say no, diga no" in Portuguese, and Spanish. All the businesses, you walk down. I was so proud of the community at that time, on that day, that you went by all these Portuguese businesses, all these other businesses, everything else and everybody had diga no, say no to vote against the destruction of Riverbank Park. We won, here in the East Ward" (P-13;I-2).

Another resident also recalled his involvement in Save the Park At RiverbanK (SPARK) and the fight to save Riverbank Park, "historically, there have never been enough and again, with the ICC and they formed a group called SPARK which was Save the Park at Riverbank. They wanted to get rid of [the park]…We only had two parks at the time. They wanted to get rid of one of our two parks and make it into a minor league baseball stadium. That group and I was part of this" (P-16;I-2). The same resident also explained how once Riverbank Park was saved from becoming a baseball stadium the Community had to fight to get it cleaned up as a result of industrial contamination that had infiltrated the soil in the Park: "the ICC fought for years…[and] managed to finally get the contamination cleaned up and get the park ….make improvements in the park, a running track and those things… and it's a beautiful park that was designed by … Fredrick Law Olmstead, the architect of … the landscape architect of Central Park" (P-16;I-1).

Petitions were an important aspect of the fight to save Riverbank Park, one participant said, “let’s Save Riverbank Park, we signed petitions for that, to save the park” (P-18;I-2). Participants also worked with the ICC and Port Authority to create a new Park in the community, the Riverfront Park which was opened in 2012. One participant spoke of the efforts to create this new Park and recent activities, “and if you look at what’s happening today along the Passaic River, there’s a cleanup going on. You look at the park space that’s being constructed, that’s only because it was fought for. I remember when construction was hot and all they wanted to do was build townhouses and condominiums along the riverfront. We fought that, we won…the River’s being cleaned up, but that’s been because of community participation, not because of leadership from political leaders” (P-13;I-1).

6.1.3 Taking Individual Action to Improve the Community’s Environmental Conditions. The essential intention of “conducting individual action to improve the community’s environmental conditions” emerged from the essential emotional theme “being sad by the lack of efficiency of personal or community effort,” and the essential themes of “attractions to the community.” Participants were attracted to the community and wanted to see it improve. Participants were however frustrated when they perceived their efforts at collective improvement to be ineffective. For many who felt this way “conducting individual action” was important to augment community environmental improvement or what they perceived to be not enough action by the community.

Participants came to understand that to reduce environmental risks in their community, individual action was still necessary to improve environmental conditions. Participants actively tried to keep their property/community clean by removing litter,

daily and weekly from on and near their property. Participants tried to prevent others from littering on or near their property and within the community by talking with neighbors and posting signs reminding others of environmental laws. Residents tried to prevent air pollution near their properties by asking drivers of vehicles not to idle near their property and around the community. Residents tried to encourage more greenery near their properties and around the community by planting plants near their properties, asking local businesses to plant trees and maintaining plants in the community. Residents also tried to organize community action, such as neighborhood watch associations, and organizing environmental improvement activities with neighbors.

Five contextual intentions became apparent as the basis of the essential intention of "conducting individual action to improve the community's environmental conditions:" (1) trying to keep my property/community clean, (2) trying to prevent air pollution near my home; (3) trying to plant/maintain greenery on/near my property, (4) trying to organize community action and, (5) notifying Government about environmental conditions.

6.1.3.1 Trying to Keep my Property/Community Clean. Participants conducted individual action to keep their properties and the community clean, which for some participants was described as a never ending responsibility. One resident said "I think around [the] Ironbound, people are not that concerned to keep the place clean. So I'm always catching, getting garbage from the streets and put[ing it] in a bag or bring[ing it] home, or finding a place to throw it out. But there is a lot …[of] boxes, water bottles, papers, plastics" (P-15;I-2). Another resident described activities that he and his family conducted to maintain their property. The resident felt that this was his responsibility

regardless of the frustration that he felt at times. The resident described what other participants echoed with regards to areas in the community with many rental properties and what he felt occurred as a result of having too many rental properties in a community. "My mom and I, we take care of our area. So when it snows we'll shovel our area. My mom's always outside sweeping and stuff like that, the front. So like I said our blocks really aren't too bad. People here are pretty good but when you turn the corner for some reason over there it gets dirty...that block does have a lot of the people who rent and leave really fast so I guess they don't care. (P-4;I-1)

Residents also described action that they took to prevent other members of the community or people in the Ironbound from littering on their property or in the community. One resident described finding a discarded television in front of his property and the effort it took to get the litter removed without incurring a fine; "my mother took it upon herself to call code enforcement and let them know what was going on… they didn't do anything until the lady showed up out of nowhere and said we could get fined for having it there. But, we called to complain and never got a response" (P-11;I-1). Another participant discussed her frustration in getting assistance from City Hall to remove and prevent littering on a vacant lot that she owns. She described being fined for illegal dumping on her property and how she felt helpless in preventing future similar acts. "To me I'm so disgusted. I'm just happy I'm moving. I don't know if there is any… resolution for it [illegal dumping], I don't know how they could resolve that problem" (P-9;I-2). The same resident described multiple illegal dumping incidents in front of her property and covering the cost for garbage removal "I had to find someone to come and

clean the lot for me. So then that's money out of my pocket and plus I had to go to court and I got fined and I had to pay the court fee…people don't care" (P-9;I-2).

One resident discussed illegal dumping by industries in the community and an incident that she observed as an employee of a chemical company and what she said to prevent such future action. "I've always had that feeling [that illegal dumping occurs by industries in the Ironbound], be[cause] a couple times I was working at XXX, I used to see- they would dump stuff. I would say, "What are you doing here?" He'd say, "Oh nothing, just don't say anything. Nobody caught us." I said, "But I saw you do it. It's illegal. You're not supposed to be dumping in there" (P-17;I-1).

Residents were also willing to invest in signs to post on their properties to inform others that littering and dumping was illegal. One participant described efforts she made to prevent littering near her home "I've asked, apparently the department that's responsible for signs is the engineering department, traffic and signals. …The manager there has always been, 'There's no money in the budget for this. If you want to see signs, you have to go to the business administrator.' And then it pretty much dies there. What I was able to do is that there's this lot here, this is dog land, dog poop land here. I was able to get the owners of that lot to put a batch of those signs that says, "Please clean up here after your dog. There is a variance and there's a $500.00 dollar fine in the City of Newark" (P-19;I-2).

6.1.3.2 Trying to Prevent Air Pollution Near My Home. Participants were cognizant of the multiple sources of air pollution in their community and they described the efforts they made to reduce air pollution at their homes. "Another day [a truck] was parked right here and I just came out [of my house]… I think [there] was three pallets he was tak[ing]

down…wait[ing] for the forklift to come to get those pallets in there. And then I ask him if he could turn off the engine because it's [an] industrial area, but it's a residential zone …and then he just smiled and sa[id], "Oh, yes," and he turned it off. But some others, I'm not here the whole day. I don't know what happen[s] the whole day" (P-20;I-1). Another resident described efforts that she had made to stop illegal dumping, "when I lived on McWhorter Street the same thing. The amount of Christmas trees that they would dump here, tires, just open up their trunk on their way to work….I mean we've yelled at them, we've yelled at them" (P-19;I-1).

Another resident described taking down the license plate of someone who was illegally dumping in the community. She described feeling that there was little that she could do to prevent these activities even if they were reported to the City of Newark.

> "There's not much you can do about it except clean it up, and then every time you clean it up, they just dump again. They're like little thieves in the night; they just dump again. I mean, one day, I saw a guy, and he pulled his truck, and I'm sitting there in the car, and I'm looking and I'm watching and he had a little pickup truck, and I'm watching him, and he had bricks and rocks in there. All of a sudden, I pulled up, got a paper there and pen, and write down his serial number. He says, what are you doing? I'm taking your license number down because I'm sick of you … people throwing garbage on my property and I get letters in the mail and I have to clean it up. I said, no that's [expletive]. He goes, 'miss, miss, please, please, I wasn't going to dump it here, I promise.' I says, don't be a liar. I said, don't … lie to my face. I said, don't go there. He says, 'no miss please, please, he says, please don't report me, I beg you. I'll take them back, and I'll leave I'll leave right away, you can stay here and watch me leave.' So if you're not there to see them and watch them" (P-9;I-1).

Another resident also described her strategy for preventing illegal dumping in the community, "you can see people riding around and they have their cars loaded with bulk. And you just see them toss it. A couple times I pretended I'm taking a picture with my camera and they jump into their cars and they take off….I mean, I never took- I don't

know how to work a camera because I never used a camera, but they don't know that! … and they get scared and they take off" (P-18;I-1).

Participating in local elections by voting was identified by some residents as an important step in conducting individual action which would empower the community as a whole. One participant interviewed was an elected official in the community and he described the importance of voting in elections. "You have to participate, if you don't get involved, we ended up getting the … the government that, that we deserve in a certain extent. And if people don't participate …don't appreciate the importance of participation - that [environmental injustice] happens… these are the realities of the democratic process" (P-5;I-1). The same resident discussed his individual action to get involved in local politics as a way to make environmental improvement.

> "I've chosen to make progress to move the bar forward in certain areas through a process of political involvement, negotiation and compromise… and I would honestly say that I believe that …I can point to a park that exists and I could point to … a bag house agreement that is in place and that it will is rolling out in the next few years. And I could point to valid discussions and negotiations between the Port Authority and the environmental community to get the Port Authority to fund more cleanup of dirty trucks…that's what I'm doing" (P-5;I-1).

Another resident discussed the importance of voting to protect the community from being taken advantage of by politicians and specifically in reference to Riverbank Park and the struggle to prevent the Park from being developed into a baseball stadium.

> "I believe that democracy works and that people need to participate, but that the majority rules, you vote for it democratically … the Riverbank Park fight, they wanted to build a baseball stadium, and in a community that was predominately immigrant, and predominately a soccer playing community, and they could do that because the people down here didn't vote. They were foreigners. They didn't participate in the democratic process. The leadership down here, and in the City, there were no consequences for them until they actually tried to take the park, and a

> number of people were galvanized and came together from disparate groups" (P-13;I-2).

6.1.3.3 Trying to Plant/Maintain Greenery on/near My Property. Residents conducted individual action to increase green space in the community. One participant discussed her involvement in a conservation group that has planted many trees in the community. She also discussed a struggle to convince people in the City Government that more trees should be planted in the community.

> "I plant lots of trees… there's this mentality that trees are the real litter problem because of their leaves. There is the mentality from New Jersey Transits community liaison that trees promote crime. People do not feel safe around trees because criminals hide behind this is the liaison, the community liaison for New Jersey transit…when I asked her to plant trees. So there is that, but we're still planting trees wherever they'll let us" (P-19;I-2).

Another resident described planting and maintain planters around her block. "We've been trying to neighborhood organ[ized], well we have the neighborhood organized and we've been planting more and more trees, and I put barrels out there with flowers, but people steal stuff. So when I put the barrel out there with the flowers, I have to put grass-leave the grass, and the…weeds around the flowers so they don't see that it's special. Just another part of the weeds. Because they just literally come and take the whole thing out" (P-8;I-1).

Some residents discussed an increase of parking lots in the community which they believe do not add to an improved environment in the community. One resident who lives across the street from a new parking lot described asking the parking lot owner to plant trees around the parking lot and how she asked him to allow her to garden in part of his lot. Although some people had organized to fight the building of parking lots, this participant described feeling more effective by working with the owner on an individual

level. "The parking lot guy is going to let me do gardening on his parking lot…I'd much rather do something positive like get the parking guy,…who they hate, to put a garden around his parking lot, and keep the trees! Which I just did. Fine, I can't get him to [not] make a parking lot, so let's make the parking lot look nice!" (P-8;I-1).

6.1.3.4 Trying to Organize Community Action. In addition to their own individual action to physically improve the community, participants described trying to galvanize others to make improvements. Participants described the difficulty in organizing neighborhood watch groups. One participant said "one of the initiatives that we have had is to have a neighborhood watch working with the Police…so far we haven't been able to get a group from this area organized. So there is a little bit of apathy. People just don't have time for it …we could have a much better impact here if people were going around and looking for the…what the neighborhood watch does is they look for the small quality of life things and they report, if a street light is out, they report it, graffiti, all those small quality of life things, it makes the neighborhood seem like its cared for and therefore less attractive to criminals" (P-16;I-1).

Another participant also made efforts to encourage the community to work together but had difficulty in organizing the community. "I wanted to do a neighborhood watch …and then I asked a couple of the neighbors here, would you be interested, would you do it? Even if we just had a sign that said this is a neighborhood watch area, that would let people say, ok well people are watching me let me not do this stuff…Most of the neighbors that live on this block, that are still here said no. They didn't want to be a part of it, and the new people that come in they just look at you like your crazy" (P-22;I-1).

Residents conducted individual action throughout the community, such as previously described through tree and flower planting. They also conducted individual action to assist larger efforts such as the fight to save Riverbank Park. One resident described a movie she made about the fight to save Riverbank Park. She described her movie as a "small part' of the fight to save the Park and not necessarily as part of the collective fight; "the Riverbank Park, you know how much hassle went into fighting to keep Riverbank Park?...I made a film about it and I used it, I exhibited the film at the [Newark] museum" (P-8;I-2).

6.1.3.5 Notifying Government about Environmental Conditions. Participants realized that it was important to notify Government about environmental conditions and that this was a way to address their disappointment and disgust with the environmental conditions in the community. Participants described the results of notifying the Government as poor, but continued to make an effort to notify Government authority for resolution of negative environmental conditions.

Residents regularly called and spoke with City Governmental agencies to report truck idling and noise pollution. Participants reported environmental violations in the community, such as littering and illegal dumping as well as damage to green space. Participants also took the time to meet and interact with City Governmental agencies and leaders to participate in City planning and zoning meetings to improve environmental conditions. Participants signed petitions against polluting sources through Governmental channels and attended peaceful protests when these activities were not effective.

Air pollution from vehicle idling was described as a concern by participants. One participant described his efforts to contact the Police with regard to vehicle idling, "I'm

always calling the Police and giving them a hard time because they park down by the Park there, especially during the summer, or at any time of the year, the trucks and the busses, these buses like the he Bolt bus, if you have seen them .... And they run their engines and their air conditioning …for their heaters. And I'm choking on the fumes, and I'm always calling the Police and giving them a hard time to get rid of that and get somebody down there" (P-1;I-1). One resident described efforts she made to contact her councilman about light pollution in the community originating from signs at the Prudential arena. "[I wrote to] the councilmen, and then I wrote to Prudential about it, the arena, and nothing happened. The councilmen thought that I was being ridiculous about complaining about it. I'm like can't they turn it off earlier, no one is looking at that except for the Ironbound. It doesn't address the highway at all, you can't see it from the highway, you can see it from the train but only for a few split seconds, its poorly placed, and it is disruptive" (P-19;I-1).

One participant described calling the Police to report the carcasses of dead cock fighting birds in boxes on the street and being ignored. "I says, "they look like cocks like they had been fighting they're all dead." I says, "and they're in boxes." And so I said … and we're talking about July … and its hot and there's millions of flies and I said … well those things stayed there forever no one ever came and picked them up. They just ... the trucks would keep running by over them and over them and over them. They never, never came, not once, not to investigate, nothing. The police never came. Humane society never came. Nobody ever came" (P-9;I-2).

Participants also described taking action to notify Police and Government officials about illegal dumping. One participant said, "Once [a] long time ago…because they do this more during the night...Once I saw [illegal dumping]. I called police. (P-20;I-1).

Although participants discussed reporting the illegal dumping activities many were not sure if the Police actually issued violations to the perpetrators. One participant described reporting illegal dumping and the lack of consequences for the perpetrator. "The cops didn't fine him, the cop just said, "Do you live here?" He said, "No." And then he says 'Take it- I want you to take it out. Take everything back in your car and take it to where you belong.'…I think there should have been a summons should have been issued so a forewarning next time because I believe they're supposed to, if you're caught dumping illegally, they either confiscate your car or they give you a fine or something, but if they keep letting people get away, they're going to continue doing it" (P-18;I-1).

Another participant described reporting illegal dumping on a lot that she owns. She said, "you know what the city told me…that's your fault…you don't have a fence. I say, what good is having a fence if you take Roanoke Avenue, and you go underneath where the train tracks are that area there, it's all filthy dirty garbage, you go over the railroad tracks, where you go, and they have that forty foot mound of dirt. That all used to have metal fences – those black iron fences. People would come there and steal them, so they can take them to a scrap metal. So the fences are gone now. So, what's the sense of me putting up a fence if they're going to steal it in the middle of the night?" (P-9;I-1).

A participant who is involved in a conservation group that plants trees in the community described her anger and disappointment at the City of Newark's reaction to her effort to report damage to trees her group had planted in the community.

> "So I guess some drunken festival goers destroy, it's tearing up the trees. Yeah, my friends who live near there could watch them from and can see them from their windows ripping limb after limb after limb. We sent pictures to the councilman and he didn't even give us an apology. There wasn't even an apology for it. He didn't even acknowledge the act, brand new trees" (P-19;I-2).

Participants described meeting and interacting with City Governmental agencies to improve their environmental conditions. Residents participated in City planning and zoning meetings and they signed petitions that were directed to Government agencies. Participants also discussed attending protests to fight potential polluting sources from being built in the Ironbound, or to save green space. Although participants described attending City meetings regarding development that would affect the environmental conditions of the community, participants did not feel that they were acknowledged at these meetings or that their effort to attend was effective. In regards to the incinerator one participants said "Believe me we were fighting it… there were tons of meetings… We went to…council meetings, even…and they wouldn't let people talk…It was like they would shut you down. A few people got up to talk, and then that would be it" (P-2;I-1). Another participant described the City's relationship with the community as poor, "the City as a whole is not very responsive. We've had terrible relations with the City as a whole, in the past… there was even a law that citizens weren't allowed to come to a city council meeting and address the council. We had to get at the time Councilman, Corey Booker who is now our mayor to make a motion to allow us to even speak in front of the City Council" (P-16;I-1).

Residents used petitions as a means to notify Government of their environmental concerns. Participants discussed signing petitions about lack of park space, saving Riverbank Park, cleaning the contamination in Riverbank Park, the placing of the incinerator in the community and building playgrounds for children at community schools. The participants that did sign petitions, however, were not confident of their effectiveness. One resident described petition signing that occurred to prevent the

incinerator, “There were petitions that went around, people came to the door to sign petitions for it to not to come but either people didn’t get enough, those people didn’t get enough support or they just lost because the City was going to do what it wanted to do anyway” (P-4;I-1). Another resident said, “you can sign all the petitions you want, they’re still going to do what they’re go[ing to] do (P-18;I-1).

Ironbound residents have protested in the past against the placement of the municipal solid waste incinerator in the community, to save Riverbank Park, a medical waste incinerator and more recently against the raising of the Bayonne Bridge. One participant discussed protesting the incinerator “that was a very big fight…with a lot of the community coming in, holding meetings, arguing with the people coming in” (P-1;I-1). Another participant described protests in the Ironbound and how she felt they did little to change the outcome of the placement of the incinerator, “there was a lot of protests and signed petitions, and do this and let’s have meeting and keep them from coming here. Just like they always try to stop everything from coming into the Ironbound section, but it never works (P-18;I-2).

CHAPTER 7

DISCUSSION, IMPLICATIONS, LIMITATIONS, AND CONCLUSIONS

This phenomenological study has been described in the previous six chapters, including the structure, methodology, and results. In addition the life-world of each participant from which emerged the experience of reducing environmental risks in an EJ community was presented. Chapter 7 will present a discussion of the results, implications for future research, limitations of the study and discuss contributions of the research to the field of Environmental Justice.

7.1 Discussion

The validity of a phenomenological investigation was achieved by a methodology capturing the unique experience of an individual based on the individual's description of their experience. For this research validity was further confirmed through revisiting the aims of the study and ensuring that the aims were met (Fu 2010). The specific aims for this study were established in Chapter 1:

1. To delineate the essential structures of the participant's experience of reducing their environmental risk;
2. To delineate each participant's unique experience of reducing their environmental risks;
3. To delineate the participant's life-world as the context from which emerges the experience of reducing environmental risks;
4. To identify important factors which facilitate or impede the experience of reducing environmental risks.

Research Aim#1 and #2 were addressed by capturing the life-world and experience of reducing environmental risks in an EJ community. Research Aim#1 and #2 were also achieved by capturing the truthful accounts of the participants' lives in their community from their perspective. Research Aim #3 was addressed in Chapters 5 and 6 through a careful analysis of the life-world and the context from which each life-world theme emerged in Chapter 5. The experience of reducing environmental risks emerged from the life-world of participants and was the participants' intentions to reduce environmental risks, which was delineated in Chapter 6.

Research Aim#4 is further discussed in this section through an exploration of the results as presented in Chapters 5 and 6 and by revisiting the bracketed knowledge as presented in Chapter 4, Table 4.3. The bracketed knowledge was the conventional knowledge on EJ which was set aside preceding the interviews; this bracketed knowledge will be compared to the results of the study and discussed following.

7.1.1 The Essential Themes Concerning the Context of the Life-world

The life-world of residents as they reduce their environmental risks was explored through the context of their experience of living in an EJ community. Data was classified in two levels from general (essential themes) to specific (thematic contexts). Data analysis revealed three main themes of the life-world, (1) attractive aspects of the community, (2) perceptions of environmental risks and (3) emotional responses to the perceived environmental risks in the community. Five themes of attractive aspects of the community were identified (1) being attracted to one's native culture, (2) being attracted to the convenient location of the community, (3) being attracted to established social

connections in the community, (4) being attracted to affordable housing, and (5) being attracted to the comparative safety of the community.

Two themes of perceived environmental risk were identified (1) being aware of environmental risks in the community and (2) realizing the harmful effect to personal health from environmental risks in the community. Four essential emotional themes became apparent from the data analysis (1) being frustrated by unheard voices, (2) being angered by ongoing pollution sources in the community, (3) being sad by the lack of efficiency of personal or community effort, and (4) being disgusted/disappointed by the current condition of the community. Each theme emerged from several thematic contexts as previously described in Chapter 5.

The five themes of attractive aspects of the community were an indication that the participants were attracted to certain aspects of their community and they found these aspects to have benefits. Many participants, both native born Americans and immigrants spoke of being attracted to the cultural aspects of the community, such as the ethnic restaurants and stores and cultural festivities. Participants also like the proximity of the community to New York City, surrounding communities and the ability to use public transportation. Participants also spoke of the social connections that they had developed in the community among family and friends and they felt the community was their home. Participants discussed the affordability of rents in the community and those participants that owned their home discussed being able to stay in the community and live within their means as a result of their home ownership. The community was also described as safe and comparatively safer than other neighborhoods in Newark. The participants'

examples of attraction to the community were the benefits that they assessed as they continued to live in an EJ community with environmental risks.

The two themes of perceived environmental risks were an indication that participants in the study were aware of the polluted condition of their environment. In addition participants were not just aware of the environmental risks in their community, they realized that these risks could or had impacted their personal and family health. The level of awareness of environmental risks did vary among participants, depending on the degree to which participants had been involved in the community and their length of residency. Participants understood that the environmental risks in their community can impact health. Participants discussed short and long term health effects from the environmental risks in the community, such as respiratory conditions, cancer, heart conditions, sleep deprivation and hearing loss.

The four essential emotional themes were responses by the participants to the polluted condition of the community and the lack of control that participants expressed regarding environmental risks. Participants expressed distress at specific sources of pollution in the community, the effects of these risks on their lives and the result of their efforts to improve their lives despite being exposed to environmental risks. Participants were frustrated by their unheard voices. Participants made efforts to improve their lives and were frustrated by a lack of response from their Local Government to improve the community. Participants were angry by ongoing pollution sources in the community and felt that the Ironbound had a long history of environmental risks which had not improved, despite more recent awareness regarding environmental pollution and more stringent environmental regulations.

Participants were sad by the lack of efficiency of personal or community effort. Many participants discussed participating in community action to improve their environmental conditions and only in a few instances was the result of this effort described as effective. Participants expressed dismay that organized action was ineffective. Participants were disgusted and disappointed by the current condition of the community and the little progress that was apparent. Residents discussed specific sources of pollution that disgusted them, such as the contaminated soil in the community, the condition of the Passaic River, and the unpleasant 'smell' of the community.

7.1.2 The Essential Intentions and Context of the Experience of Reducing Environmental Risks.

The experience of reducing environmental risks was delineated as previously described in Chapter 6 from general to specific. The participants' intentions in response to their life-world emerged as their experience of reducing environmental risks; and were categorized as essential intentions (general), contextual intentions (intermediate) and intentional actions (specific). Three essential intentions emerged as the core of the experience of reducing environmental risks: (1) reducing environmental risks, (2) trying to work with the community to improve environmental conditions, and (3) taking individual action to improve the community's environmental conditions.

The three essential intentions emerged from the participants' conscious intentions and specific actions to reduce their daily exposure to environmental risks in their community. Participants were aware of many environmental risks in their community and as a result they altered their lives to reduce these environmental risks. Participants became involved in community action in order to achieve positive

environmental improvement. Participants involved in community action were hopeful that organizing the community to work together would be more effective, even if this was not the case in past instances. Participants also conducted individual action to bring about environmental improvement. Participants conducted individual action in addition to collective action and sometimes exclusively of any organized action as a means to improve their personal condition and improve the community as a whole.

These essential intentions emerged from contextual intentions and further from specific actions that participants took to improve their lives and their community. The context of the action that one or more participants took to reduce environmental risks was to decrease asthmatic/allergy/respiratory exacerbation from air pollution. One specific action of this context was keeping their home windows closed all day. Several specific actions formed the contextual intention and thus ultimately led to the essential intention theme, representing patterns in the data. These patterns were revealed again and again in the data and further validated the study. As a result the study was successful in fulfilling the aims of the research and producing a phenomenological description, which captured a rich and detailed portrayal of the life-world of participants and the experience of reducing environmental risks. From the life-world, the participants' experiences were delineated and it was clear that the individuals' intentions guided their lives as they reduced their environmental risks.

7.1.3 Discussion of the Findings

This study provided new findings on residents living in an EJ community in four areas: (1) life-world of attractive aspects of the community, (2) life-world of awareness and

perceived environmental risks, (3) life-world of emotional distress and (4) participant's intentions of reducing environmental risks in an EJ community.

The findings of this research are further described in line with the four phase "descriptive phenomenological method" previously described in Table 4.2. This section addresses phase IV: "discuss[ing] the findings by integrating the bracketed knowledge and relevant literature." The bracketed knowledge will be compared to the life-world of the participants from which emerged the experience of reducing environmental risks in an EJ community. The ideas bracketed for this study were discussed in Chapter 4, Table 4.3.

Similarities exist between the bracketed knowledge and the essential themes of the life-world of participants in an EJ community and the themes of the experience of reducing environmental risks. Four of the six bracketed themes were contextual fragments of EJ community members' life-world and experiences reducing environmental risks.

7.1.3.1 Findings from the Life-world of Attractive Aspects of the Community. Findings of the study demonstrated positive aspects of the EJ community which attracted residents to the community. These attractive aspects were important factors that influenced participants 'decisions to stay in their neighborhood despite existing environmental risks. Existing literature on EJ communities has shown that the multi-dimensional aspects of EJ communities influence the retention of residents; however no research has delineated the attractive aspects or attributes of EJ communities. This research identified the attractive aspects of an EJ community and delineated the attributes

which residents described as important factors that drew them to the community and compelled them to stay in spite of facing environmental risks.

Existing literature identifies social connections, place attachment and affordability as important factors that led to residents' decision to stay in EJ communities (Lejano and Stokols 2010, Atari et al. 2011, Mah, 2009, Pastor et al. 2001) but no other research has investigated the positive aspects of EJ communities and systematically delineated the resident's specific contexts of these attractive aspects, such as "being attracted to one's native culture" "being attracted to the convenient location" and "being attracted to comparative safety of the community." The influence of these positive aspects and the delineation of their specific context from the resident's perspective provides insight into the trade-offs being made by participants in an EJ community. These data also provide greater insight in to the basis for retention of residents in EJ communities.

Findings of this study underscored the bracketed knowledge that "the experience of personal risk reduction is multi-faceted and influenced by socio-economic and cultural factors, including place attachment, place identity, social networks, social capital, and the moral hazards that residents chose to accept as part of their life in an EJ community" (Lejano and Stokols 2010, Atari et al. 2011, Mah 2009, Pastor et al. 2001). The experience of reducing environmental risks in the Ironbound was influenced by many of these factors. Participants' described their life-world in the context of their families, their cultures, their friends and other influences which made them to continue to live in the community regardless of the environmental risks that they faced on a daily basis.

Participants who were immigrants explained the large immigrant population of the Ironbound as a benefit to them because they were able to communicate in their native

language and eat native food and buy native products. The ability to feel 'at home' with numerous cultural influences in the Ironbound was described by immigrant participants as one reason why they remained in the community. Many participants felt that they did not have a choice to move out of the community due to their limited income, language barriers, and proximity to public transportation, which they felt was not available in other communities. The risks that participants accepted were described in terms of trade-offs for the benefits that the community offered, such as affordable housing, accessibility in their native language and culture and proximity to public transportation and other urban cities. This research captured broader and more detailed experience of living in an EJ community, which was only fragmentally described in existing literature in terms of place attachment, social connections or affordability as influencing factor contributing to EJ.

7.1.3.2 Findings from the Life-world of Awareness and Perceived Environmental Risks. This study described the participant's awareness and perception of environmental risks. Participants in this study were aware of the environmental risks in their EJ community. New data from this research in the field of risk perception in EJ communities was the perception of environmental risks identified by participants and the immediate health concerns attributed to these risks. For example participants were not aware of the specific levels of air contaminants in their communities but they perceived the air pollution was severe in their community since the air immediately elicited physical health symptoms of asthma, coughing and choking. Vehicles in the community, which residents were confronted on a daily basis, were perceived to be a bigger threat to the level of air pollution in the community than the municipal solid waste incinerator

which has consistently exceeded emissions limits for lead, mercury and particulates and received over 120 violations in five years (Caroom 2012). The perceived sources of air pollution, e.g. vehicle exhaust emissions, and actual standards for air quality showed a gap between the perceived risks of air pollutants in the community and the actual risk according to environmental standards.

In addition previous EJ literature has focused on specific aspects of resident's awareness and perceptions but not the detailed experiences of residents. Quantitative studies have measured the pollution levels in EJ communities; however this research showed that residents really focus on the outcomes of pollution and pollution sources that impact their daily lives and not quantitative measures of risks. Findings from this research demonstrated that, from the participants' view, the bracketed knowledge that the quantitative tools of "risk analysis and risk assessment are the primary mechanism for determining levels of environmental risks and structuring appropriate policy to address these risks" (Brody et al. 2004, ApSimon et al. 2001, Bowen 2002) is not beneficial to the community. Findings of this study showed a lack of understanding or real meaning of risk assessment among the residents when using these mechanisms of risk assessment. Participants did not assess their localized risks based on quantitative measures; rather they assessed risks based on their perceptions and the perceived impacts on their health.

Finding of the study provided different insight from the participants regarding the bracketed theme "reducing pollution on a large scale is the essential strategy to help individuals reduce their environmental risks" (Bickerstaff and Walker 2001, Krieg and Faber 2004, Corburn 2007). Residents expressed concern over the immediate, localized effects of pollution in their community, which they did not feel was consistent in adjacent

communities. One example of a localized effect not necessarily experienced on a larger scale was the impact of vehicle emissions in the Ironbound. Residents attributed much of the air pollution in the community to vehicle exhaust and the density of vehicles in the community, largely attributed to the Airport and the Seaport. In the interviews the large scale pollution reduction strategy of implementing National and State regulations on emissions for vehicles was not expressed as sufficient for addressing pollution from these sources in the Ironbound.

The quantification of pollution has not benefited the Ironbound, specifically in regards to the municipal solid waste incinerator. The Federal and State emission standards which limit air pollutants from the municipal solid waste incinerator have consistently been violated in the Ironbound. The incinerator is exempt from current emission standards based on its age and as a result the national standards in place do not benefit the community. Although most participants did not convey an understanding of the exemption status that the municipal solid waste incinerator receives, they did perceive that the incinerator was contributing to poor air quality in the Ironbound and increasing environmental risks in the community.

Participants in the study were aware of the environmental risks in the community and they perceived these risks as detrimental to their health and well-being. Residents however, focused on the outcomes of the pollution in their community, and not any quantitative calculation of pollution. The impact of pollution sources for residents was realized and understood by how these sources impacted their daily lives.

7.1.3.3 Findings from the Life-world of Emotional Distress. This research offers new insights into the emotional distress of living in an EJ community. This research

showed that not only do residents perceive environmental risks but their efforts to reduce their perceived risks elicited emotional distress. Research has identified psychological factors such as fear, anxiety and stress among residents in EJ communities (Atari et al. 2011, Lejano and Skokals 2011, Bevc et al. 2007), but no other research has systematically identified the distress caused by specific sources of environmental risks from a phenomenological methodology. The phenomenological method structures the data in a taxonomy that clearly identifies the context, type and sources of the distress which has not been shown previously in EJ research.

One source of distress was the previously identified bracketed knowledge that "incompatible environmental and land use polices" which participants felt "do not consider localized elevated levels of environmental risks among EJ communities" (Brody et al. 2004, ApSimon et al. 2001, Bowen 2002). Participants were angered by the contaminated land, capping practices and instances of residential building on contaminated land in the community. Participants expressed anger and sadness that residential properties were built with deed restrictions which prevented the use of soil underneath or around the property. The Ironbound shares a disproportionately high number of contaminated sites from historical industrial pollution. However, the data from this research also showed that these sources elicited distress from participants who perceived that these contaminated sites were inappropriately managed. Many of these sites have been categorized by the New Jersey Department of Environmental Protection as brownfields sites, and Newark and the Ironbound have one of the highest concentrations of these sites in the State of New Jersey (NJDEP 2014). This is consistent

with other studies that have shown that EJ communities have an uneven distribution of hazardous pollutants in their land (McClintock, 2012).

Many participants in this research questioned the use of brownfields sites for re-use, especially when the contamination in the ground was not sufficiently remediated. Participants were especially concerned with the building of residential homes on contaminated land and the ability of existing environmental and land-use policies to allow such building. From the events that they witnessed, such as contaminated land reuse, participants were angered and frustrated and they realized that their communities' environmental well-being was not a priority for their elected officials and that the policies in place were not meant to protect their health.

Another example of the failure of environmental and land-use policies in the Ironbound was the soil contamination that participants described at Riverbank Park. Although the park was not taken from the community and used to build a baseball stadium, the soil in the park was determined to be contaminated. When the contaminated soil in the park was eventually removed and replaced, the replacement soil was also later found to be contaminated. As a result participants expressed anger, sadness and disappointment and they did not have faith in the environmental policies that were in place to protect their health and the community.

The study underscored the bracketed knowledge that "EJ communities and their residents are excluded or have limited impacts on the legal and policy decisions that affect their communities" (Lejano and Smith 2006, Payne-Sturges et al. 2004, EPA 2005a, Pastor et al. 2005). Participants expressed numerous examples of feeling "unheard" and "ignored" by their elected officials, in such examples as the placing of the

municipal solid waste incinerator, opposition to the raising of the Bayonne Bridge, and building of a Hess natural gas power plant. One example of the limited affect that residents had on legal decision in the Ironbound was the building of the municipal solid waste incinerator, which was opposed by many participants, but was built regardless of opposition by the community. These efforts to improve their community by participants were a source of anger and frustration and examples of the sources of the participants' emotional distress.

Participants did not feel "the use of risk analysis and risk assessment is an important mechanism for structuring environmental policy" as was bracketed (Brody et al. 2004, ApSimon et al. 2001, Bowen 2002). The use of these techniques rely on quantitative approaches to assessing risk and then ascribing levels of risk. Participants in this study were asked to assess the environmental risks in their community and to discuss how they felt about the policies in place to protect them from these risks. Participants described the multiple pollution sources in their community as negatively affecting their well-being, yet they described being unable to reduce such impacts, through existing policy or other means. For example participants described feeling 'unheard' and ignored and they felt that existing regulations to prevent their concerns, such as vehicle idling, illegal dumping, etc. were ineffective and not enforced.

Although the participants in this study were not specifically asked about risk analysis and assessment techniques, participants were asked about their personal assessment of environmental hazards in their community and what emerged in the data was their perception of risks. The policy implications of risk analysis and assessment techniques were discussed as the current policy which formed existing environmental

conditions. Participants were asked how they felt about existing environmental conditions and the policy and legal decisions that allowed the environmental conditions to exist. Participants expressed a lack of faith in their Government and felt that their community was 'stigmatized.' They also expressed sadness and a lack of confidence in their elected officials and feeling that there was pervasive corruption throughout the community.

7.1.3.4 Findings from the Intentions of Reducing Environmental Risks. The most important significant finding of the study was that participants living in an EJ community did initiate personal effort and take actions to reducing environmental risks at a personal, family, and community level. This finding has not been captured previously in EJ research. Participants described their perceived environmental risks in the community and their intentions to reduce these risks through explicit intentional actions. This study was the first study that delineated the intentions of participants as they reduced their environmental risks in an EJ community using a phenomenological methodology.

The intentions were the participants' consciousness of their actions to reduce their exposure throughout their daily lives. The three intentions, previously discussed in Chapter 6 were (1) reducing environmental risks (2) trying to work with the community to improve environmental conditions and (3) taking individual action to improve the community's environmental conditions. These intentions emerged from the participants actions to reduce their environmental risks and improve their lives.

The findings of the study confirmed the bracketed knowledge that "residents' perception and response to environmental risks in EJ communities are important factors that empower grassroots movements in EJ communities" (Altschuler et al. 2004,

Beaumont et al. 1999, Northridge et al. 2003. This study also provided additional data which showed how the awareness and perceptions of specific risks influence participant's intentions. For example the participants in this study were empowered to perform collective action to improve their environmental conditions as a result of what they perceived to be the environmental risks in their community. Participants described their efforts to participate in collective action, what motivated them to do so and if their efforts were effective. Such a clear delineation of the participants' efforts and actions in response to environmental risks has not previously been captured in the EJ literature.

Research has shown the benefits and effectiveness of collective action in vulnerable communities; Brown et al. 2003 found that collective action was effective in EJ communities to achieve desirable community improvements. Participants in the study "tried to work with the community to improve environmental conditions" as a result of the environmental risks they perceived. Participants described becoming involved in collective action and community organizations as a way to be heard. The voice of one individual was described by many participants as 'ineffective' in opposition to large forces such as corporations or the City Government. In these instances participants felt it was necessary to 'be part of a group' to effectuate positive environmental progress.

The data from the study revealed that the community is periodically faced with defeating proposed sources of environmental risks, such as the previously proposed medical waste incinerator and tire incinerator. Participants described organizing on an individual and community level to defeat these sources of pollution which they felt did not consider the cumulative impact from existing sources of pollution in the community. Participants felt that their opposition was 'unheard' and that existing environmental

policy was also ineffective at reducing their environmental risks. Participants felt the lack of enforcement of emission limits on the municipal solid waste incinerator was an example of the community being stigmatized and taken advantage of by State and Local Government.

Participants also gave examples of potential polluting sources in the Ironbound which they opposed and were unable to defeat such as the raising of the Bayonne Bridge and the future Hess natural gas power plant on the Passaic River. The placement of facilities/structures which will increase environmental risks must be approved by Government, which might be in the form of a land variance at a local level or the National Environmental Policy Act (NEPA) if the project receives federal funding. Residents in the Ironbound opposed the raising of the Bayonne Bridge which would increase the size of ships and subsequent vehicle traffic in the community, through NEPA and the public comment period. Community opposition to the Bridge project failed even as the Federal Government extended comments on the project to specifically review the considerations of residents in EJ communities (EELC 2013).

Participants also discussed opposing the City Planning Board's approval of the Hess Corporations 655 megawatt natural gas power plant in the Ironbound. Residents attended planning board meetings and organized in opposition to the proposed plant which was ultimately approved by their elected officials in 2012 (Giambusso 2012). Participants felt that planning board and zoning board meetings were corrupt and that the deciding officials were not concerned with the well-being of the residents they represented. Participants felt that their elected officials accepted trade-offs or 'deals' when environmentally contentious projects were proposed. Such a tradeoff was made

when the Newark Planning Board approved the Hess facility which will emit 2 million tons of carbon dioxide annually; in exchange Hess will compensate the City $15 million dollars for the Ironbound Stadium, environmental programs and workforce development (Caroom 2012).

The current National, State and Local environmental policies have not protected the residents of the Ironbound. And as a result participants described feeling a burden on the community for the responsibility of defeating sources of pollution which create environmental risks in the Ironbound. One participant asked "Why always the Ironbound" and this theme was reiterated by many other residents of the community. This was also exemplified in data previously discussed concerning the participants' feelings that the community was stigmatized and taken advantage of because of its large immigrant, non-voting population.

In response to being excluded from legal and policy decisions that impact their community, participants "reduced their environmental risks in their community." The participants were forced to take responsibility for the protection of their health and well-being by performing specific activities on a daily basis. These activities were closing windows in their homes and cars; avoiding congested areas, avoiding contaminated areas and wearing hearing protection. Participants also consciously avoided specific areas of the community or chose not to live and work in areas where they perceived environmental risks to be higher.

This study was the first of its kind to investigate the experiences of individuals as they reduced their environmental risks, which produced more descriptive data on those managing exposure to pollutants on a daily basis. A more in depth understanding of

individual action in the context of environmental risk reduction can influence the creation of meaningful policy to reduce pollution exposure in vulnerable communities.

7.2 Implications for Practice, Research, and Policy

The application of the phenomenological method to EJ research in this study allowed for a detailed, descriptive analysis of the experiences of individuals in a vulnerable community, including the participants' consciousness of action as they reduced environmental risks. As Giorgi argued "consciousness" cannot be avoided in phenomenological methodology and as a result becomes a vehicle to access "what is given to awareness" (Giorgi 1997). The consciousness of intent allows the experience to be structured to reveal a framework in which the experience emerges from the life-world. As a result, data identified the complex issues within an EJ community and through the structuring of the experience, and a comparison to existing EJ literature it was apparent that such data has not been previously captured (Creswell 2007).

The phenomenological method is concerned with the experience as it exists without the influence of abstractions and theoretical concepts associated with the natural world (King and Horrocks p.179) and allows for an investigation of a problem from a fresh perspective. A fresh approach to the multi-faced and complex issues in EJ communities was appropriate for this research because of the lack of conventional knowledge on residents in EJ communities and their intentions and actions as they reduce environmental risks. In summary it was important to assess the experience of risk from a phenomenological perspective because current practices of assessing risk have not fully

succeeded as an effective tool to implement beneficial environmental policy in EJ communities.

The study provided new insights into the experience of living in an EJ community. The participants felt 'unheard' and excluded from policy decisions that impact their environmental conditions. These findings are consistent with other research which found a lack of community involvement in policy decisions as a factor in poor environmental risk management in EJ communities (ALA 2011). EJ research continues to show that vulnerable populations are excluded from the decision-making process that ultimately decides the fate of their environment (Man and Wan 2014, Higginbotham 2010).

Findings of the research showed that when participants tried to participate in the established political process they were ineffective. Participants felt the processes in place to oppose environmental changes in the community, such as attending zoning board and planning meetings, providing petitions, or participating in stakeholder meetings were merely a formality on the part of the City. They felt as one participant articulated: "it's already figured out…all the deals haves already been made" (P-19;I-1) and that the committees did not care about the communities concerns. Participants felt that there was a limited impact that individual and collective action could produce through these processes because the intent of the City was insincere. As a result residents in the Ironbound protected their health through deliberate intentional actions and policy should consider these intentional actions to create further plans to protect resident's well-being.

Participants felt 'unheard' and 'ignored' through the established political process and they felt that their elected officials "didn't care." These feelings were further compounded at the end of the political decision making process when elected officials

would negotiate a deal to accept a polluting source into the community in exchange for a one time financial compensation or another questionable trade-off from the private corporation that benefits. Participants questioned the compensation that was negotiated when the Hess power plant was approved in 2012. As one participant said "when they all get what they want: five million dollars for recreation, fifteen hundred tree's, they think their making out like fat rats" (P-19;I-1). As another participant articulated "it's money over the safety or the health of the environment and the people" (P-4;I-1). Ultimately participants felt their environment and health was for sale and at a discount.

The findings of this study supported research which has shown that "EJ communities are generally not benefited by national and regional policies based on assessments which do not consider their localized, overburdened conditions" (Krieg and Faber 2004). Future research and policy making should focus on: (1) strategies that incorporate the individuals' perceptions of their environmental risks, (2) meaningful stakeholder involvement processes to reduce the distress of individuals living in EJ communities and, (3) incorporating resident's intentions as they reduce environmental risks.

7.2.1 Implications for the Findings on the Intentions of Reducing Environmental Risks

The participants in this study reduced their environmental risks even though existing emission standards on the municipal solid waste incinerator and vehicles are deemed appropriate. Participants in this research were not assured by existing policies to protect their health which implies that EJ communities need policy and plans that consider their localized conditions. Just as policy protects pristine areas of wilderness with more

stringent environmental regulations, EJ communities need to be protected and improved with specific policy considerations.

The findings from this research concerning intentional efforts are also significant because the Ironbound is a community which has organized effectively for over 30 years in response to environmental concerns through the Ironbound Community Corporation and other groups. Some participants in this research described themselves as 'activists' with long histories of community involvement. These participants described many examples of working through bureaucratic and legal channels to oppose environmental risks or to improve the community and being ineffective. The processes in place to involve the community have been described as a formality; this signals a lack of meaningful stakeholder involvement in policy decisions at the City level, which excludes EJ concerns. Future policy should assess the effectiveness of stakeholder involvement and confirm that the processes of stakeholder involvement are fair in EJ communities.

7.3 Limitations

The goal of this study was to produce rich and vivid descriptions of the life-world and experience of reducing environmental risks in an EJ community. The experiences of the 23 participants in this study cannot be generalized as representing the experiences of residents in all EJ communities. By the very nature of the interview method and the phenomenological method, the researcher is an instrument and bias is possible.

To the best of the researcher's knowledge this is the first application of the phenomenological method to EJ research and there are no other similar investigations to draw comparisons based on the methodology. Further phenomenological research should

continue in the EJ field exploring various aspects of vulnerable communities as they are exposed to disproportionate levels of environmental risks. Some such examples for further research would be investigating the experiences of activists in EJ communities and the effectiveness of collective action. Future research should explore the experiences of children and possibly further investigating health impacts on long term and short term residents in EJ communities. In order to draw comparisons across similar EJ communities' future research should also explore experiences of residents in multiple EJ communities. Another interesting investigation might involve a longitudinal design over a longer period of time with three interviews to capture environmental progress or decline in an EJ community.

7.4 Conclusions

7.4.1 Summary of the Findings

The purpose of the study was to describe the experience of reducing environmental risks in an EJ community. The rich and detailed data achieved the aims of the study and produced a life-world as the context of the experience of reducing environmental risks with two levels, from general to specific. The study produced three main themes of the life-world (1) attractive aspects of the community, (2) awareness and perceptions of environmental risks and (3) emotional distress from these risks. These main themes were delineated from supporting contexts, which structured a two level description of the life-world.

A framework of three levels evolved to describe the experience of reducing environmental risks from general to mediating to specific: essential intentions, contextual intentions and intentional actions. The study revealed three essential intentions of the

experience of reducing environmental risks (1) reducing environmental risks, (2) trying to work with the community to improve environmental conditions and (3) taking individual actions to improve the community's environmental conditions.

7.4.2 Significance of the Study

As to the best knowledge of the researcher, this study was the first research study that was designed to investigate the experiences of reducing environmental risks in an EJ community using a phenomenological approach. The research was innovative in two aspects: 1) using a descriptive phenomenological approach, rich and detailed experiences were uncovered in terms of an individual's intention, interpretation, and action in response to their experience of reducing environmental risks; 2) the results from this study provided insights and opinions from the residents' perspective, which is essential to make and implement community-specific policy and planning to improve individuals' quality of life in an EJ community.

The study demonstrated valuable descriptions of the attractive aspects of the community, residents' perceptions and awareness of environmental risks, sources of emotional distress, and intentions and actions of participants in an EJ community. The findings of the study produced data that was more in depth, and detailed regarding the experience of individuals in an EJ community as compared to the conventional knowledge existing on EJ communities. In addition the data concentrated on the experience of the individual as they reduced environmental risks as opposed to concentrating on the pollution source. Such an approach ensured that the focus of pollution and its effects remain on the human aspect in the research.

7.4.3 Contributions of the Study to the Field of Environmental Justice

The purpose of the study was to gain an understanding of life in an EJ community from the perspective of its residents. The study can be evaluated on the basis of the new information gained about the life-world of participants and through a comparison of conventional knowledge in the field of EJ research. The study provided new insights into the experience of living in an EJ community and reducing environmental risks, such as the emotional distress that residents face as a result of their community.

The essential intentions of participants which structured the experience of reducing environmental risks were a detailed exposition of individual's intentional actions, which has not been previously explored in other EJ research. This study systematically explored the individual's life-world and experience of reducing environmental risks in a manner that captured the most important elements of community attraction, perception, distress and action from the participant's point of view. Although the data produced findings specific to the Ironbound, the comparison to bracketed knowledge confirmed a lack of existing data with regards to risk awareness, perception and resident's intentional efforts in EJ communities.

Through the identification and documentation of the underlying causes of actions taken by residents' a more complete picture of an EJ community developed which may have impacts for local governments, social organizations and individuals. The results of this research gave insight into how communities, through local governments or community organizations, can further reduce impacts from pollution, locally. The results of this research provided insight into why this EJ community retained residents and why some people chose to locate to the Ironbound. This research showed that in the

Ironbound there is a high level of place attachment, place identity and social capital which contributes to population retention. Ironbound residents, through their chronic exposure have developed coping strategies to make the necessary trade-offs to survive in an EJ community and each of these factors shapes the resident's experiences in dealing with environmental risks.

Future research in the field of EJ should focus on strategies that incorporate the individuals' perceptions and intentions in local, community specific environmental policy. Environmental policy in EJ communities should also be specific to vulnerable communities and their unique considerations. Such policy should consider reducing the distress of individuals living in EJ communities so that individuals' intentions are improved and residents can better protect themselves and their families from exposure to environmental risks.

7.4.4 Impact of the Study on Participants

The study was beneficial to those that participated because they learned about activities in their community that affect environmental quality. In some interviews the researcher asked a participant about a source of environmental pollution in the community which the participant was not aware or had little awareness. The researcher did not inform the participant of the environmental condition in the first interview, so as not to create any bias, but would encourage the participant to find out more about the subject for the next interview. In other instances the researcher may have asked about something that the participant was aware of but had not considered. For example the researcher asked one participant about vehicle exhaust in the community in the first interview and the participant had few comments. In the second interview the participant said,

> “I've actually, I’m now noticing and I think it's because of our conversation that last time. I'm noticing the exhaust smell. It's horrible. I even noticed it yesterday. I grabbed my son from school and we stopped for ice cream to celebrate and even the ice cream truck was polluting. I don't know. Maybe he's running on diesel, I don't know what it is but he was a stinker. He was a stinker” (P-19;I-2).

The study benefited the participants by raising their awareness to conditions in their community which they may not have fully realized. The study also inquired about participants’ involvement in their community and many participants acknowledged that they should be more involved. It is hopeful that participants will become more active in their community and work to improve environmental conditions for all people as a result of their involvement in this research.

APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE

The following is the questionnaire given to participants to collect demographic data.

Please tell me about yourself.

1. How old are you?

2. How many years of education do you have?

3. What is the highest grade or type of education you reached in school?

_____ Less than High School
_____ High School Graduate
_____ Technical School
_____ Partial College
_____ Associate Degree
_____ Bachelor's Degree
_____ Master's Degree
_____ Doctoral Degree
_____ Professional degree

4. Which of the following best describes your marital status now?

0. _____ Single, never partnered
1. _____ Married
2. _____ Divorced/separated/no longer partnered
3. _____ Widowed
4. _____ Partnered or living with a domestic partner)

5. Are you currently employed?

0. _____No 1. _____Yes

If Yes, what sort of work you do?

0. _____ Employed full or part time
1. _____ Unemployed by choice
2. _____ Sick Leave or Disability
3. _____ Homemaker
4. _____ Retired: not due to health status
5. _____ Other: Specify:

6. Ethnicity/Race

1. _____ Black or African American
2. _____ White or Caucasian (not Hispanic or Latino)
3. _____ Asian
4. _____ Portuguese
5. _____ Brazilian
6. _____ South American
7. _____ Central American
8. _____ Mixed
9. _____ Other, please specify_____

7. Considering how well your household lives on its income. Financially, would you say that you are:

1. ____Comfortable: have more than enough to make ends meet
2. ____Have enough to make ends meet
3. ____Do not have enough to make ends meet

8. Smoking history:
    1.____Current smoker (smoking within a month of this encounter)
    2.____Recent (stopped smoking between 1 month and 1 year before this encounter)
    3.____Former (stopped more than 1 year before this encounter)
    4.____Never smoked

9. On average, how often do you drink alcoholic beverage (beer, wine, or liquor)?
    1. ____Never
    2. ____1 or fewer alcoholic drinks per week
    3. ____2-7 drinks per week
    4. ____7 or more drinks per week
    5. ____5 or more drinks in six months

10. What is your sex?
    Male Female

11. How long have you lived in the Ironbound?

12. Do you own your home or rent?

13. Do you live in a house, apartment, condo, townhouse, ½ duplex?

14. Are you a member of a community organization, if so which one?

15. Have you experienced any of the following?

_____Hypertension	_____Deep Vein Thrombosis	_____Respiratory Problems
_____Arthritis	_____Chronic Venous Insufficiency	_____Diabetes
_____Heart Disease	_____Kidney Disease	_____Asthma
_____Migraines	_____Cancer	_____High Blood Pressure
_____Lung disease	_____Immune System Defects	_____Heart Rhythm Problems
_____Depression	_____Anxiety	_____Bronchitis
_____Liver Disease	_____Lead poisoning	_____Heavy Metal Poisoning
_____Eye Problems	_____Others:_____	

APPENDIX B

INTERVIEW GUIDE

The following interview guide was used by the researcher for the semi-structured interviews.

I. Interview 1 (duration of the interview, approximately 70-140 minutes):

I. Place Identity

1. Please tell me how you would describe yourself, your community and your neighborhood?

2. Please tell me what is like for you to live in Ironbound? How long have you lived in the IB, have you lived there consistently?

   Probe: Can you tell me what you like the most about your home, neighborhood, or community? Is there anything else that you like to tell me about your community?

3. Do you consider yourself a part of your community and why?
   Probe: Are there any specific incidents that have made you feel this way?

4. Tell me one thing that you like most about the Ironbound?

5. Tell me one thing that you dislike most about the Ironbound?
   (if given examples, I will ask the next question)

   Probe: Can you tell me more about why you feel this way? Is this the worst part of your community or are there other things that you dislike? What kind improvement that you want to see in your neighborhood or community?
   In your opinion, what has to be done to improve the community?

   a. What makes you continue to live in the Ironbound?

II. Place Attachment

1. Please tell me what makes you live in the Ironbound?
   Probe: Can you tell me more about this?

2. If you have a choice, would you choose to move out of Ironbound?
   Probe: Tell me more about why you feel this way? Where would you like to live if you could? Why? What would you miss the most of the Ironbound if you did move/

3. Do you have other family members or friends who live in Ironbound?

III. Moral Hazards

1. Please tell me, how would you rate the air quality in the Ironbound?
   Poor, good, very good, excellent, etc.

2. In comparison to other communities in Newark, how would you rate the air quality in the Ironbound? Worse or better? What about the water and soil quality?
   Probe: Why do you feel this way?
   Probe: Can you recall the first time you came to this conclusion?
   Probe: Do you feel that air quality is more often bad than good in your community?

3. In your opinion, what is the most dangerous pollution (water, air or soil) to health in the Ironbound? Why do you feel this way? Does it affect you?

4. Please tell me what you think about the incinerator? How far do you live from the incinerator?

5. Who in the Ironbound and surrounding area do you think is most affected by the air pollution originated from the incinerator?
   Probe: Do you feel that older people or children are more affected by air pollution? Why do you feel this way? What is your level of concern for yourself regarding the air pollution?

6. Do you have any health problems?

7. What heath problems, in your opinion, are caused by, contributed to, or related to, the air quality, or other pollution in the Ironbound?
   Probe: How do you feel about these health problems in relation to the poor air quality in Ironbound?

IV. Coping Strategies

1. As a person who lives in this community please tell me what you are trying to do to reduce the environmental risks you encounter, such as the incinerator, etc….
   Probes:
   What makes you ….?
   What are the most important things you do to….?
   How did you decide that these are the most important things?

2. As a person who lives in the community, please tell me how you reduce your exposure to the environmental risks, such as ….
   Probes:
   Tell me about the kinds of things you do on a regular basis for you to reduce your personal exposure to environmental risk, such as….

3. What motivates you to reduce the environmental risks you mentioned, such as ….
   Probes:
   How do you feel about taking these steps to protect yourself?
   How long do you think you will have to do this? How does this make you feel?

APPENDIX C

CONSENT TO PARTICIPATE IN A RESEARCH STUDY FORM

The following form was filled out by each participant prior to participation in the study.

NEW JERSEY INSTITUTE OF TECHNOLOGY
323 MARTIN LUTHER KING BLVD.
NEWARK, NJ 07102

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE OF STUDY: The Experiences of Reducing Environmental Risks in an Environmental Justice Community

RESEARCH STUDY:
I, _____, have been asked to participate in a research study under the direction of Gabriela Dory & Dr. Zeyuan Qiu. Other professional persons who work with them as study staff may assist to act for them.

PURPOSE:

The objective of the research is to describe the experience of reducing environmental risks among residents in an environmental justice community. The goal is to understand the lived experience of residents in an environmental justice community in the Ironbound, Newark, New Jersey and how the underlying cultural, social, economic, and psychological processes shape their experiences in dealing with multiple sources of pollution.

DURATION:
My participation in this study will last for 70-140 minutes on two occasions, two months apart.

PROCEDURES:
I have been told that, during the course of this study, the following will occur:

A participant will be solicited through the researcher's contact in the Ironbound Community Corporation (ICC) who is involved in community improvement efforts and is able to speak English clearly. The participant will be compensated $40.00 for each interview. In most instances, unless a participant withdraws from the study there will be two interviews from each participant. The participant will be interviewed by the researcher, Gabriela Dory in a mutually agreed upon location by the researcher and the participant, most likely the ICC's office, the participant's home or a location at NJIT.

The interested subject will sign a consent form to participate in the interview. After the voluntary nature of the interview is further explained, a date and time for the interview will be scheduled. The interview will be voice recorded. The interview will cease and recording will be stopped and destroyed if the participant discusses any crimes or illegal activity that is irrelevant to the study. After the interview the subject will be thanked and asked to return in two months for a second interview. The initial interview will be transcribed and analyzed. The individual name of the subject will not be revealed in any publications of the results.

PARTICIPANTS:
I will be one of 12-20 participants in this research. This interview will be used for a dissertation.

EXCLUSION
I will inform the researcher if I do not speak English.

RISKS/DISCOMFORTS:
I have been told that the study described above involves NO risks and/or discomforts:

CONFIDENTIALITY:
I understand confidential is not the same as anonymous. Confidential means that my name will not be disclosed if there exists a documented linkage between my identity and my responses as recorded in the research records. Every effort will be made to maintain the confidentiality of my study records. If the findings from the study are published, I will not be identified by name. My identity will remain confidential unless disclosure is required by law.

PAYMENT FOR PARTICIPATION:
I have been told that I will receive $40.00 compensation for my participation in each interview in which I participate for this study.

RIGHT TO REFUSE OR WITHDRAW:

I understand that my participation is voluntary and I may refuse to participate, or may discontinue my participation at any time with no adverse consequence. I also understand that the investigator has the right to withdraw me from the study at any time, specifically if I discuss activity of an illegal nature.

INDIVIDUAL TO CONTACT:
If I have any questions about my treatment or research procedures, I understand that I should contact the principal investigator at:

Gabriela Dory c/o Dr. Zeyuan Qiu
Department of Chemistry and Environmental Science
New Jersey Institute of Technology
University Heights
Newark, NJ 07102
973-641-4024 (voicemail)
doryg@hotmail.com or zeyuan.qiu@njit.edu

If I have any addition questions about my rights as a research subject, I may contact:

Judith Sheft, IRB Chair
New Jersey Institute of Technology
323 Martin Luther King Boulevard
Newark, NJ 07102
(973) 596-5825
sheft@njit.edu / irb@njit.edu

SIGNATURE OF PARTICIPANT

I have read this entire form, or it has been read to me, and I understand it completely. All of my questions regarding this form or this study have been answered to my complete satisfaction. I agree to participate in this research study.

Participant Name _____

Signature _____

Date _____

SIGNATURE OF READER/TRANSLATOR IF THE PARTICIPANT DOES NOT READ ENGLISH WELL (Only needed if English fluency is not an exclusion criteria)

The person who has signed above, _____, does not read English well, I read English well and am fluent in (name of the language) _____, a language the subject understands well. I have translated for the subject the entire content of this form. To the best of my knowledge, the participant understands the content of this form and has had an opportunity to ask questions regarding the consent form and the study, and these questions have been answered to the complete satisfaction of the participant (his/her parent/legal guardian).

Reader/Translator Name _____

Signature _____

Date _____

SIGNATURE OF INVESTIGATOR OR RESPONSIBLE INDIVIDUAL

(Only required for consent forms of projects requiring full IRB approval)

To the best of my knowledge, the _____ participant, has understood the entire content of the above consent form, and comprehends the study. The participants and those of his/her parent/legal guardian have been accurately answered to his/her/their complete satisfaction.

Investigator's Name _____

Signature _____

Date _____

APPENDIX D

INSTITUTIONAL RESEARCH BOARD APPROVAL

The following form documents the NJIT Institutional Research Board approval received for this study in October 2012.

NJIT New Jersey's Science & Technology University

Institutional Review Board: HHS FWA 00003246
Notice of Approval
IRB Protocol Number: F 135-13

Principal Investigators: Gabriela Dory / Dr. Zeyuan Qiu
Chemistry and Environmental Science

Title: Lived Experiences of Reducing Personal Exposure to Environmental Risks in an Environmental Justice Community

Performance Site(s): Off Campus – Iron Bound, Newark, NJ:

Type of Review: FULL [x] EXPEDITED [ ]

Type of Approval: NEW [x] RENEWAL [ ] REVISION [ ]

Approval Date: October 15, 2012 Expiration Date: October 14, 2013

1. **ADVERSE EVENTS:** Any adverse event(s) or unexpected event(s) that occur in conjunction with this study must be reported to the IRB Office immediately (973) 596-5825.

2. **RENEWAL:** Approval is valid until the expiration date on the protocol. You are required to apply to the IRB for a renewal prior to your expiration date for as long as the study is active. It is your responsibility to ensure that you submit the renewal in a timely manner.

3. **CONSENT:** All subjects must receive a copy of the consent form as submitted. Copies of signed consent forms must be kept on file with the principal investigator.

4. **SUBJECTS:** Number of subjects approved: 20

5. The investigator(s) did not participate in the review, discussion, or vote of this protocol.

6. **APPROVAL IS GRANTED ON THE CONDITION THAT ANY DEVIATION FROM THE PROTOCOL WILL BE SUBMITTED, IN WRITING, TO THE IRB FOR SEPARATE REVIEW AND APPROVAL.**

Judith Sheft, IRB Chair,

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