

# Qualitative and quantitative research in social epidemiology: is complementarity the only issue?

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**(Investigación cualitativa y cuantitativa en epidemiología social, ¿es simplemente una cuestión de complementariedad?)**

## Abstract

Although in recent years there has been a growing acceptance of qualitative research in social epidemiology, the role and scope of its use remain a contested terrain. We sketch some of the issues that have been the focus of the debate between supporters and critics of qualitative research in social epidemiology and adjacent public health disciplines. They include epistemological problems, such as the limitations of survey research to uncover social mechanisms, lack of background among epidemiologists to generate sound hypotheses for specific populations, and ontological problems such the idealism inherent in some of the qualitative research coming from anthropology. Next we review the urban ethnographies of Elliot Liebow's and a decade of population based research in African American and low income neighborhoods in the United States to expose another role for qualitative research in social epidemiology. Thus, we argue that qualitative research has been used in scientific debates that confront egalitarian researchers with institutions or peers with opposing economic interests and ideologies. Qualitative research is often a powerful tool to fuel alternative theoretical frameworks and measures to be included in quantitative population based surveys. We confine this use of qualitative research to the academic world and do not necessarily imply that communities benefit from it as in action research.

**Key words:** Qualitative. Quantitative. Urban health. Social inequalities. Philosophy. Social epidemiology.

## Resumen

A pesar de que en los últimos años hemos asistido a una creciente aceptación de la investigación cualitativa en el campo de la epidemiología social, el papel y el ámbito de su utilización continúa siendo un campo de debate. En este trabajo presentamos algunos de los temas que han sido el centro del debate entre los investigadores a favor y en contra de la metodología cualitativa para la investigación en epidemiología social y disciplinas relacionadas de la salud pública. Entre los puntos de controversia hay problemas epistemológicos, como las limitaciones de la investigación mediante encuestas para abordar mecanismos sociales, la ausencia de un marco conceptual en los epidemiólogos para generar hipótesis relevantes para poblaciones específicas, y problemas ontológicos como el idealismo inherente a la investigación cualitativa proveniente de la antropología. Se revisan a continuación las etnografías urbanas de Elliot Liebow y una década de investigación en población afroamericana y barrios desfavorecidos en los Estados Unidos para exponer otro papel de la investigación cualitativa en epidemiología social. Así, sostenemos que la investigación cualitativa se ha utilizado en debates científicos en los que se confrontan investigadores igualitaristas con instituciones u otros investigadores con intereses económicos e ideologías opuestas. A menudo la investigación cualitativa es una potente herramienta para apoyar medidas y marcos teóricos alternativos que puedan ser incluidos en estudios poblacionales cuantitativos. Creemos que este uso de la investigación cualitativa se limita al mundo académico sin que necesariamente implique que la comunidad se pueda beneficiar de ella como sucede en el caso de la investigación para la acción.

**Palabras clave:** Cualitativo. Cuantitativo. Salud pública. Desigualdad social. Filosofía. Epidemiología social.

## Introduction

The increasing popularity of qualitative methods in public health has been accompanied by philosophical (epistemological, ontological and ethical) controversies regarding their use, in particular in epidemiology<sup>1</sup>. In this article we review some of these debates, give a typology of the use of qualitative research and suggest a new understanding of the uses of qualitative research in social epidemiology with two illustrations. We argue that in the history of public health and associated population health disciplines, qualitative research has often played the role of «whistle blower». Thus, qualitative researchers have been able to point to social mechanisms affecting health (e.g., racism) that have been ignored by more rigorous, expensive and mainstream quantitative research. Thus, by pointing to mechanisms that had been previously marginalized or ignored, qualitative research has had a positive heuristic in epidemiology and public health.

### *Common critiques to qualitative research: are they fair?*

One of the most common critiques launched against qualitative research is that it focuses on detailed descriptions of interpersonal interactions, without relating them to social structure, as in Ervin Goffman's social psychology of everyday interactions<sup>2</sup>. That is, qualitative research suffers from ontological individualism. However, in current public health most qualitative studies try to link naturalistic observations with broader social structures. For example, Erenreich's study<sup>3</sup> of the work experience of low wage service sector women in the United States (e.g., among nurse aides) points to an unregulated labor market, low unionization rates, and gender discrimination as cause of occupational health hazards. Similarly, the ethnographic studies by Kim et al (qualitative studies of globalization and health)<sup>4</sup> connect the poor health of the Haitian and Latin American poor to the policies of the World Bank and the International Monetary Fund. On the other hand most social epidemiology up to the mid 1990 to late nineties ignored the social context by focusing exclusively on individual attributes (e.g., race, hostility, education, income)<sup>5</sup>.

Qualitative research has also been attacked by its epistemological idealism (i.e., the philosophy of science that maintains that there is no objective knowledge). Most traditions in anthropology from which qualitative research has emerged spouse idealism (ethnomethodology, symbolic interactionism). Nonetheless in social epidemiology, even when qualitative researchers claim to adhere to such philosophies, in practice they collect data and provide explanations like a realist would do.

For example, although Amy Schultz's qualitative research<sup>6</sup> declares allegiance to subjectivism, her detailed account of African American women in Detroit points to the structural inequalities (lack of investment, residential segregation, unemployment, decaying city infrastructure) that impact the health of African American women. Conversely some of the most popular hypotheses in social epidemiology have idealist underpinnings. For example Wilkinson's perceptions of income inequality<sup>7</sup> and social capital<sup>8</sup> hypotheses share the assumption that perceptions, rather than objective reality are major determinants of a person's health.

A third critique of qualitative research states that the personal involvement of researchers with their populations and the blurring of the researcher-researched distinction easily become unethical. Examples of these problems are the participation of illegal activities (e.g., Philippe Bourgeois' «In Search of Respect»), deception, fabrication of data, voyeurism, and judgmental moralism (i.e., the propensity of qualitative research to pass value judgment on the behavior of the persons they observe). For example Loic Waquant<sup>9</sup> has recently provided a detailed critique of the value judgments present in some of most popular urban ethnographies in the United States, where qualitative research artificially divide African American communities into «good law abiding» and «bad delinquent» types. On the other hand some contemporary methods of data collection in social epidemiology, such as the videotaping of neighborhoods in search of «broken windows», loitering, drug and sex trade<sup>8</sup> could also be characterized as unethical as they violate the right to intimacy of poor community residents (wealthy neighborhoods are not subjected to such type of inquiries).

Thus we find that while the common criticisms (i.e., individualism, subjectivism, unethical practices) launched against qualitative research have some merit, they certainly cannot encompass the entire scope of qualitative research in public health. In addition, quantitative research often suffers from similar weaknesses. In the next section we outline a classification of uses of qualitative research in social epidemiology.

### *Uses of qualitative research in social epidemiology*

The current view of qualitative research is that it constitutes a complement to quantitative research<sup>10</sup>. The limitations of surveys are widely acknowledged. For example certain populations are more easily accessed with qualitative research than with survey methods (e.g., homeless, drug users, crime organizations, corporations). The skepticism surrounding the validity of the large and expensive quantitative NORC study on the sexual behavior of US populations where elderly men reported high levels of sexual behavior, among other improba-

ble findings, indicated that sampling and data analysis could not overcome basic issues of response validity. Even statisticians such as Adrian Rafferty have noted the necessity of developing qualitative methods.

Thus qualitative research is used in the following situations: *a*) when there is lack of background knowledge (e.g., in current investigations on the health effects of flexible work); *b*) in situations where qualitative research adds knowledge that would not be available via quantitative methods. These can be *nested* (e.g., as in Michele Lamont's ethnographic interview of a small random sample of community residents or *integrated* (e.g., as in *ecometrics*, a new set of methods of neighborhood assessment that combines direct observation with reliable measurement; or in *deviant case analysis* where regression outliers are examined via additional qualitative methods to identify omitted variables and then incorporate these variables in the quantitative model to improve its fit).

We believe that qualitative research is also used in social epidemiology as a tool to generate hypotheses or to find social mechanisms (racial segregation, deprivation) that are not addressed in quantitative studies. Such use of qualitative research is not identical to «action research», common in applied disciplines, where social change and qualitative research go hand-in-hand. The use that we are referring to is restricted to the academic world and no claims of larger social influence are attempted. For example, Elliott Liebow, one of the top best sellers of post World War sociology in the United States with his ethnography of Black unemployment in 1960s' Washington opened the door to acknowledging that the poverty and lifestyle of unemployed Black men in the United States was due to lack of opportunity rather than to character flaws such as laziness. It is worth pointing out that when «Tally's Corner» was published there had already been decades of racial and health statistics although quantitative research on segregation or racism was practically absent. Liebow's «Tally's Corner», as well as Anderson's «Streetwise», McLeod's «Ain't No Making It», Stack's «All Our Kin», or Thomas' «Down These Mean Streets», and other qualitative studies paved the way for the cultural acceptance of the research on racism that Krieger, David and others developed in the 1980s and 1990s. In the next section we illustrate such use of qualitative research as a hypothesis generating tool in social epidemiology with an example from our own research.

*Qualitative research as a hypothesis generating tool and controversies in social epidemiology*

The use of qualitative information often suggests different explanations than those conveyed through quantitative surveys. We provide an example on the different

implications generated from qualitative and quantitative research using research on the mental health of a community in Baltimore, Maryland. Quantitative studies using surveys by Muntaner et al<sup>11</sup> provided data on prevalence of anxiety disorders in this community in the mid 1990s. Prevalence of anxiety disorders was associated with poverty and educational levels showing increased anxiety disorders in families with greater poverty and lower educational attainment. However, the survey method did not provide an explanation for this association. Qualitative studies using key informants and focus groups on this same population, also conducted in the 1990s, revealed mental health problems as well as a detailed account of the social mechanisms that residents believed were causing their ill health (table 1)<sup>12</sup>. The qualitative studies showed how lack of political clout and community control of housing redevelopment resulted in anxiety and poor health indicators. Examples of responses from key informant interviews included «I'm wound up a bit and could relax more... once I find out where I can move and get moved and settled then I'll feel better»<sup>12</sup>. Thus, the quantitative study by Muntaner et al<sup>11</sup> provided objective results of anxiety prevalence by social class but could not identify what mechanism might be leading to these levels of anxiety. The qualitative study showed how the lack of strong political influence and inadequate political bonds with the local government and the powerful developer lead to a community feeling powerless in controlling its future (table 2). Minimal inferences by the authors were included in the report of how redevelopment in this community resulted in poor health outcomes. Instead, the community told the interviewer exactly what they thought was making them feel stressed and anxiety ridden pointing to a new set of testable empirical hypotheses (table 1) (e.g., the impact of forced relocation on anxiety disorders).

Current quantitative and qualitative studies of the process of redevelopment in this East Baltimore community additionally show the usefulness of qualitative or mixed methods research. When participants were asked the question, «do you think you are being treated fairly in the redevelopment process», 95% of 90 respondents answered «yes»<sup>13</sup>. During probing by the interviewer following this response, these same respondents told anecdotes of unfair treatment of themselves and neighbors in the redevelopment process. Examples include «They decided to tear our houses down, then they told us about it; didn't even ask us» and «they're not letting us move where we want to, trying to keep all the black people living together»; «after the people with money moved out, the city didn't care about us anymore; just left us to deteriorate». These examples highlight how residents really feel about the entire redevelopment process and the political mechanisms they feel are involved in determining the process of re-

**Table 1. Qualitative and quantitative research of neighborhood health**

| Qualitative Research <sup>a</sup>   | Quantitative Research <sup>b</sup> |
|---|------------------------------------|
| Health effects of an urban redevelopment process  | Health status of informants        |
| Stress from wondering whose block would be redeveloped next and whether they would be able to stay in neighborhood  | Mental illness                     |
| The university is interested in using community residents only as «research subjects» rather than in providing needed health care services; grant dollars direct research | Diabetes                           |
| The university's acquisition of property leads to intentional abandonment of houses and subsequent drug and crime in neighborhood   | Hypertension                       |
| Stress from feeling that the university is a «plantation presence» but have to work there anyway  | Cancer                             |
| The university is not interested in providing health care because it wants the community to remain sick so they cannot fight back (around the University's redevelopment) | Heart disease                      |
| Referral to clinics in Baltimore County, far away from their neighborhoods  | Asthma                             |
|   | Emphysema                          |

<sup>a</sup>Results of focus groups. <sup>b</sup>Survey results of participants of focus groups.

development. Similarly, the mechanisms that lead to the deterioration are not seen unless probing is allowed. Using only quantitative survey data often does not allow this type of insight and allows these mechanisms to go unreported and addressed. Qualitative research allows inquiry into mechanisms not easily accessed by surveys and supports researchers in further addressing a more political analysis of urban renewal and its health effects (see tables).

These examples from our own research point to the limited ability of survey instruments in uncovering social determinants of neighborhood health. Whether such limitation is an intrinsic shortcoming of quantitative survey methods or whether it just reflects researchers' theoretical biases is open to debate. Going back to our example, it is likely that the process of forced urban relocation and its health effects could be measured quantitatively. Thus, urban sociologists have developed quantitative methods to assess processes such as segregation and gentrification using administrative data and primary data collection. In that case the superficiality of quantitative surveys in uncovering social determinants of health could be at least partially solved if survey researchers dared to measure controversial but realistic social mechanisms such as racial and class segregation (zoning, redlining, banking on neighborhoods,

neighborhood covenants) or political relations between institutions that may determine traumatic urban redevelopment for residents.

*An embattled method: the politics of qualitative research*

It is also recognized that qualitative research may intentionally omit a more political perspective by ignoring the types of questions that would elicit these political responses. This phenomenon of qualitative research is due to the subjectivity of this methodology. For example, in Duneiers' «Sidewalk»<sup>14</sup>, he reports on street vendors as «more complicated than the stereotype might indicate». They take pride in making an honest living. They compete for prime sidewalk space. They delegate tasks like true business managers. And only a few of them are alcoholics or drug abusers». Lacking in this qualitative study is a political analysis of why these individuals live this «street life» or the racial or class analysis of their lives. The author set out to write a book to convince the readers that street vendors are «no different» from the rest of us without providing an analysis of why certain groups of people are more likely to adopt this «lifestyle». In the qualitative research publication by Klinenberg, the exact opposite is intentionally conveyed. This study intricately highlights the political effects of poverty and race by describing how a large percentage of the 700 individuals killed in one week in the Chicago heat wave during the summer of 1995 lived alone and had no family or community supervision. Kunenberg's qualitative study discusses the racial and economic dimensions of the disaster and comments on the skeptical response of city officials and the media, during and after the event<sup>15</sup>. These two examples of qualitative data gathering clearly show how the views of the researcher dramatically shape the outcome of the study. Thus, when possible, one should go beyond qualitative methods and provide objective and quantitative tests of the ensuing hypotheses.

**Table 2. Summary of qualitative data of key informant interviews**

|   |
|---|
| The government partners in partners with the local university in helping it acquire real estate for building new clinical, educational, and research facilities |
| No systematic process of informing community of redevelopment plans (by city/state government or the university)  |
| The university could not develop «wherever» they pleased if they didn't have the support of the city government in ensuring acquisition of properties           |
| Lack of trust in government to adequately represent community   |
| Consistent worry as to when the university will develop further into their neighborhood   |

The likelihood of funding for qualitative research, where a more critical perspective might be presented, also remains a potential obstacle to the growth of qualitative research. Currently, quantitative research follows a more formalized structure that demands greater funding mechanisms. Though funding for qualitative research may require lower costs in part due to the «informal, non-expert» perception, it is exactly this perception that results in the decreased likelihood of funding opportunities. Ironically, it is this «marginal» aspect of funding that leads to qualitative research historically being at the forefront of new research agendas. For example, as shown above qualitative reports of health disparities in the United States have existed for many years. However, only recently have funding agencies initiated large-scale requests for proposals to more thoroughly understand the reasons for these health disparities across different types of populations. Today, the existence of health disparities is acknowledged by the US National Institute of Health, Institute of Medicine, the World Health Organization, and even The World Bank.

#### *Concluding remarks*

The promise of qualitative research in social epidemiology is likely to stem from the integration of methods that increase the reliability and objectivity of qualitative methods while simultaneously increasing the validity of survey research for a given population health problem. In other words there is no shortcut to scientific standards. Nevertheless because public health research is heavily influenced by political considerations, qualitative research can play an important role to point to social mechanisms and hypotheses that are ignored in mainstream quantitative research, and even in some circumstances that may not be easily approached with quantitative methods.

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