©Copyright 2007
Julie Marie Postma

Environmental Justice Discourses in El Proyecto Bienestar (The Well Being Project)

Julie Marie Postma

A dissertation
submitted in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy

University of Washington

2007

Program Authorized to Offer Degree:
School of Nursing

UMI Number: 3252884

Copyright 2007 by

Postma, Julie Marie

All rights reserved.

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI®

UMI Microform 3252884

Copyright 2007 by ProQuest Information and Learning Company.

All rights reserved. This microform edition is protected against unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

University of Washington
Graduate School

This is to certify that I have examined this copy of a doctoral dissertation by
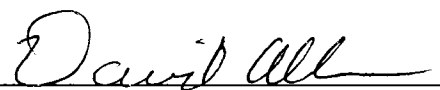
Julie Marie Postma

and have found that it is complete and satisfactory in all respects,
and that any and all revisions required by the final
examining committee have been made.

Chair of the Supervisory Committee:

_____

Mary Salazar

Reading Committee:

_____

Mary Salazar

_____

David Allen

_____

Devon Peña

_____

Patricia Butterfield

Date:___2/21/07_____

In presenting this dissertation in partial fulfillment of the requirements for the doctoral degree at the University of Washington, I agree that the Library shall make its copies freely available for inspection. I further agree that extensive copying of the dissertation is allowable only for scholarly purposes, consistent with "fair use" as prescribed in the U.S. Copyright Law. Requests for copying or reproduction of this dissertation may be referred to ProQuest Information and Learning, 300 North Zeeb Road, Ann Arbor, MI 48106-1346, 1-800-521-0600, to whom the author has granted "the right to reproduce and sell (a) copies of the manuscript in microform and/or (b) printed copies of the manuscript made from microform."

Signature _Julie Marie Pistina_

Signature _Julie Marie Pistina_

Date _2/21/07_

University of Washington

Abstract

Environmental Justice Discourses in El Proyecto Bienestar (The Well Being Project)

Julie Marie Postma

Chair of the Supervisory Committee:
Professor Mary Salazar
Psychosocial and Community Health

In this dissertation I examined ways in which the term "environmental justice" (EJ) was employed to legitimate or marginalize activities in the interest of promoting occupational and environmental health. Three scholarly papers were produced.

The first paper provided an overview of the EJ movement, critically discussed contemporary EJ theory, and suggested implications for nurses. Contributions from Native American struggles and labor, anti-toxics and civil rights movements provided the conceptual basis for three EJ dimensions relevant to nurses; reconceptualizing the environment, integrating self-determination in health-related decisions, and appreciating the strength of social networks. Unlike the EJ movement, federal interpretations of EJ emphasize research versus action, minority and low income populations versus people of color, and environmental equity versus environmental racism. Implications for nurses are discussed in terms of practice, education and research.

The second and third papers report processes by which diverse participants (e.g. researchers, clinicians, community leaders, farmworkers, growers) work towards articulating and achieving EJ in one federally-funded Community-based Participatory Research project. Multiple methods were used to produce and collect text. Applied conversation and discourse analysis were used to analyze data. Project participants negotiated distributive, procedural, social and corrective justice dimensions of EJ. Organizational governance and management were further examined to explore areas of community and farmworker influence within project activities. Recommendations included creating one governance group which includes farmworkers, engaging in capacity building activities and providing education concurrent to conducting research.

The third paper examined "empowerment" discourses within the project. Participants shared different views as to how community empowerment can be actualized. Some suggested "empowerment" can occur via advocacy on behalf of farmworkers, others via increasing the political power of farmworkers to advocate on behalf of themselves. The latter approach was viewed by some as too threatening to the neutrality of the project to endorse. Future work is needed to examine how competing empowerment goals can be realized in coalitional models of academic and community partnerships.

TABLE OF CONTENTS

i

LIST OF FIGURES

iii

LIST OF TABLES

ACKNOWLEDGEMENTS

CHAPTER 1

Introduction

An introduction to the demographic background and the disparate risks faced by farmworker communities regionally and nationally informs the need to develop innovative strategies to investigate and respond to their unique occupational and environmental health risks. Community-based participatory research (CBPR) has been identified as one such strategy to improve worker health and well-being by involving workers in the research process, so that results are relevant and used to inform action for social change. Evaluation of partnership processes are limited, however, and tend to reflect the researcher perspective. This chapter will provide the context for a new approach to process evaluation in CBPR.

Demographic Overview of Agricultural Workers in Washington State

There are over 185,000 migrant and seasonal farmworkers in Washington State, 52,500 of whom are Hispanic (primarily of Mexican origin) and working in Yakima County (Larson, 2000). According to the 1997-1998 National Agricultural Workers Survey (NAWS) data, the median level of formal education among farmworkers is six years, and only one in ten workers stated that they can read or speak English fluently. NAWS researchers also found that among 4,199 workers, 88% were Hispanic, approximately three-quarters (79%) were born in Mexico or Central America, and half (52%) were undocumented. Likewise in Yakima County, 36% of residents are Hispanic,

and in 1999, approximately 16% of the population was foreign born, and 30% spoke a language other than English in their home (U.S. Bureau of the Census, 2000).

Yakima County's economy is primarily agricultural, which leaves many workers unemployed at least part of the year due to the seasonality of farm labor. Between July of 1994 and July of 1995, agricultural, processing, and packing and material handling jobs showed unemployment rates of 32, 12, and 14 percent respectively, and the average annual wage for an agricultural worker was $11,013 (Labor Market and Economic Analysis Branch, 1997). Villarejo reports that wage rates and real income nationwide actually declined for workers during the 1990's (Villarejo, 2003). Unemployment, low wages, lack of formal education, and language barriers are not the only social conditions of concern for farm workers and their families. For decades, malnutrition, inadequate housing, accessibility and quality of health care, and occupational risks have been critical concerns of worker and advocacy groups (Moses, 1993). In summary, agricultural workers and their families hold a low socioeconomic position in the United States as well as in the Yakima Valley, and have higher risk exposure and lower protective factors than other workers.

Agricultural Worker Hazards and Risks

Agricultural work is one of the most dangerous occupations in the United States, second only to mining in the number of fatal injuries (National Safety Council, 2000). According to both the National Safety Council (NSC) and the National Census of Fatal

Occupational Injuries coverage, annual agricultural deaths range between 700 and 780, or 22.1 per 100,000 (National Safety Council, 2000; U.S. Bureau of the Census, 2000).

Non-fatal injuries are also prevalent. In 1999, the NSC estimated that there were 150,000 disabling injuries nationwide, similar to numbers reported in the workers compensation (WC) system in both Washington and California (McCurdy & Carroll, 2000). One study of agricultural injury in Washington State using WC data demonstrated that these workers experience 2.3 times the risk for injury compared to the general worker population (Demers & Rosenstock, 1991; McCurdy & Carroll, 2000). Furthermore, studies using WC data probably underestimate true incidence and prevalence of injury and illness (Fenske & Simcox, 2000). For example, one Yakima valley study found that urinary tract infections from restrictions on bathroom access and dermatological, pulmonary and arthritic conditions are often not reported to WC systems (Snyder, 2001). Agricultural workers are not only at disproportionate risk for exposure to occupational and environmental health hazards, but have extremely complex exposure profiles (Engel, Keifer, & Zahm, 2001; Larson, 2001). Thus, CBPR approaches aim to develop collaborative strategies with workers, clinicians and researchers that will enable the agricultural community to identify and respond to the disparate occupational and environmental health risks they face.

Community-Based Participatory Research

CBPR has been federally recognized as a strategic approach to increasing the relevancy, acceptability, and usefulness of evidence-based scientific findings to improve

the health of communities (Centers for Disease Control and Prevention, 2006). Guiding CBPR principles include: recognizing the community as a unit of identity; building on existing strengths, resources and relationships within the community; facilitating collaboration in all phases of the research process; integrating knowledge with action for the mutual benefit of all partners; promoting a co-learning and empowering process that attends to social inequalities; addressing health from a positive and ecological perspective; and disseminating findings to all partners (Israel, Schulz, Parker, & Becker, 1998). Similarly, community-partnered participatory research (CPPR) shares many of the same principles, emphasizing equal power in decision-making, community capacity building, and clear communication (Jones & Wells, 2007).

In occupational and environmental health, CBPR approaches have been used to identify and address differential risks faced by select community groups (Fox, 2002), and to plan culturally-appropriate interventions in areas such as asthma, subsistence-fishing hazards and lead exposure (Corburn, 2002; Parker et al., 2003; Rothman, Lourie, & Gaughan, 2002). Among farm worker populations, CBPR has been used to develop a social marketing program to reduce pesticide exposure among fernery and nursery workers, (Flocks et al., 2001), train cucumber and tobacco workers in avoiding pesticide residues (S. Quandt, Arcury, Austin, & Cabrera, 2001), decrease pesticide exposure among farmworker children (L. A. McCauley, Beltran, Phillips, Lasarev, & Sticker, 2001), promote occupational health among indigenous farmworkers (Shadbeh, Farquhar,

& Samples, 2006), and reduce eye injuries among citrus workers (Monaghan & Forst, 2006).

<div align="center">CBPR and Process Evaluation</div>

In intervention research, process evaluation guides researchers to ask questions about why an intervention worked or didn't work. For example, if a randomized control trial were designed to test whether or not a multi-component educational intervention increased subjects' knowledge and self-efficacy to perform a certain task, questions to ask of the intervention may include; Were all intervention components delivered as planned? Did the intervention reach the appropriate subjects? Which components contributed to significant results? Among which subjects? Were subjects satisfied with the intervention (Grembowski, 2001; Sidani & Braden, 1998)? Process evaluation allows researchers to understand which theoretical components guiding the intervention were supported by the results. With this information, theories can be refined and interventions improved (Linnan & Steckler, 2002).

While process evaluations have been conducted and published in relation to community and work-based intervention trials (Linnan & Steckler, 2002) as well as intervention aspects of some CBPR projects (Ammerman et al., 2003), there is a dearth of literature about evaluation of partnership processes in CBPR. Although CBPR is a dynamic approach to research, as opposed to a specific research design, process evaluation can be adapted to evaluate the relationship between adopted CBPR principles and project results.

Researchers adopting CBPR strategies strive to balance power among academic and community partners, develop knowledge collaboratively with the community, and integrate knowledge with social action (Israel, Schulz, Parker, & Becker, 1998). However, within the health sciences literature, there are few studies that evaluate these processes. Of those that do, many authors have taken a "lessons learned" approach, citing broad recommendations based on what they identify as facilitating factors and lessons learned in partnership development (J. Crowe & Keifer, 2006; Israel, Schulz, Parker, & Becker, 1998; Krieger et al., 2002; McAllister, Green, Terry, Herman, & Mulvey, 2003; Potvin, Cargo, McComber, Delormier, & Macaulay, 2003; S. A. Quandt, Arcury, & Pell, 2001; Strickland, 2006; N. B. Wallerstein & Duran, 2006). While useful, such findings most often reflect only the researcher perspective and are difficult to extend to other contexts.

There is a small body of literature, however, that does address process evaluation in CBPR as a rigorous exercise in interpretive study. In these writings, building trust among participants is consistently cited as prerequisite to successful academic and community partnerships (Chrisman, Senturia, Tang, & Gheisar, 2002; Lantz, Viruell-Fuentes, Israel, Softley, & Guzman, 2001; Letiecq & Bailey, 2004; Parker et al., 2003; Sullivan et al., 2001; N. Wallerstein, 1999). Power imbalances among participants are frequently described as a barrier to building partnership trust, (Letiecq & Bailey, 2004; Sullivan et al., 2001; N. Wallerstein, 1999) and are shown in discussions of project foci,

(Sullivan et al., 2001) strategy, (Sullivan et al., 2001; N. Wallerstein, 1999) and

evaluation criteria (Letiecq & Bailey, 2004).

In previous CBPR projects with farm worker communities, open communication

was paramount to collaboration (L. A. McCauley, Beltran, Phillips, Lasarev, & Sticker,

2001; Meade & Calvo, 2001; S. A. Quandt et al., 2004). In one collaboration, stereotypes

and differences in channels of communication and orientations to power were reported to

impede cooperation, until the goal of legitimizing the expertise of all partners was

clarified (S. A. Quandt et al., 2004).

In summary, process evaluation is needed to assess to what extent research

partnerships adhere to CBPR principles (Israel et al., 2001). While outcome evaluation is

useful in monitoring the efficiency and effectiveness of public health programs over time,

process evaluation asks questions about the partnership process, such as "How do

researchers and community participants work together, make decisions, and negotiate?

What are the benefits and challenges of doing this type of research for all parties

involved?" (Parker et al., 2003). Because formal partnerships between scientists,

community activists and clinicians are relatively new, process evaluation is a useful tool

to analyze the extent to which negotiation takes place within CBPR. Investigating these

questions require appropriate process evaluation methodologies.

Adopting New Methodological Approaches to Process Evaluation in CBPR

Adopting new methodologies for process evaluation in CBPR facilitates a more

deliberate evaluation of whether or not knowledge was being co-produced among CBPR

participants. In other words, are the views of community participants recognized, valued, and incorporated into the research process? New methodological approaches that apply a functional theory of language and a Foucauldian theory of the interplay between knowledge and power better facilitate an investigation of the co-production of knowledge among CBPR participants.

For example, as part of an evaluation of an at-risk youth program, Madison (2000) examined the discourse of "at-risk youth" among project stakeholders to determine the consequences of how this language was being used. She found that in the policy language used among funding agencies the term was used to describe both the problem and the youth. The implications were that "the language stigmatizes the youth as undesirable rather than the social situation responsible for placing them at risk... In this construction, the risk factor is the individual and the consequences are lifelong dependency on society. So the focus of the intervention is on remediation rather than prevention" (p.20). Furthermore, "the language of at-risk is used as an instrument in the construction of social reality based on the social values of policy makers, the granter, and the grantee agencies" (p.20). Her analysis consisted of how the term was being used, as well as which stakeholders were being served by the various uses of the term (Madison, 2000). Similarly, an investigation of how language is used by various CBPR participants in defining the community, selecting the project focus, and designing interventions provides insight as to whose constructions of social reality are being legitimated and incorporated into the research process.

Discourse analysis provides a basis for understanding how power functions through language. The use of discourse analysis in CBPR creates spaces for "competing community discourses to emerge" (N. Wallerstein & Duran, 2003, p. 51) by bridging individual narratives with the sociocultural assumptions those narratives carry (Hardin, 2001). Analyzing how certain forms of knowledge come to be legitimized or marginalized is central to an analysis of the partnership process.

CBPR is a new approach to knowledge generation that purports to incorporate community expertise into the research process. Dominant methodologies used in process evaluation are inadequate to guide an investigation of this espoused CBPR goal. Adopting theories of relational power and highlighting the functional uses of language to create and legitimize meaning provide the philosophical grounding needed to explore new methodologies to investigate the co-production of knowledge in the CBPR setting.

Notes to Chapter

Ammerman, A., Corbie-Smith, G., St George, D. M., Washington, C., Weathers, B., & Jackson-Christian, B. (2003). Research expectations among African American church leaders in the PRAISE! project: a randomized trial guided by community-based participatory research. *Am J Public Health, 93*(10), 1720-1727.

Centers for Disease Control and Prevention. (2006). Advancing the Nation's Health: A Guide to Public Health Research Needs, 2006 - 2015. Retrieved 12/26/06, 2006, from http://www.cdc.gov/od/science/PHResearch/cdcra/Guide_to_Public_Health_Rese arch_Needs.pdf

Chrisman, N. J., Senturia, K., Tang, G., & Gheisar, B. (2002). Qualitative process evaluation of urban community work: a preliminary view. *Health Educ Behav, 29*(2), 232-248.

Corburn, J. (2002). Combining community-based research and local knowledge to confront asthma and subsistence-fishing hazards in Greenpoint/Williamsburg, Brooklyn, New York. *Environ Health Perspect, 110 Suppl 2*, 241-248.

Crowe, J., & Keifer, M. (2006). CBPR: Achieving community participation in research to improve farmworker health. *Journal of Agricultural Safety and Health.*

Demers, P., & Rosenstock, L. (1991). Occupational injuries and illnesses among Washington State agricultural workers. *Am J Public Health, 81*(12), 1656-1658.

Engel, L. S., Keifer, M. C., & Zahm, S. H. (2001). Comparison of a traditional questionnaire with an icon/calendar-based questionnaire to assess occupational history. *Am J Ind Med, 40*(5), 502-511.

Fenske, R., & Simcox, N. (2000). Agricultural Workers. In B. S. Levy & D. H. Wegman (Eds.), *Occupational Health: Recognizing and Preventing Work-Related Disease and Injury*. Philadelphia: Lippincott, Williams, and Wilkins.

Flocks, J., Clarke, L., Albrecht, S., Bryant, C., Monaghan, P., & Baker, H. (2001). Implementing a community-based social marketing project to improve agricultural worker health. *Environ Health Perspect, 109 Suppl 3*, 461-468.

Fox, M. A. (2002). Evaluating cumulative risk assessment for environmental justice: a community case study. *Environ Health Perspect, 110 Suppl 2*, 203-209.

Grembowski, D. (2001). *The Practice of Health Program Evaluation*. Thousand Oaks: Sage Publications.

Hardin, P. K. (2001). Theory and language: locating agency between free will and discursive marionettes. *Nurs Inq, 8*(1), 11-18.

Israel, B. A., Lichtenstein, R., Lantz, P., McGranaghan, R., Allen, A., Guzman, J. R., et al. (2001). The Detroit Community-Academic Urban Research Center: development, implementation, and evaluation. *J Public Health Manag Pract, 7*(5), 1-19.

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annu Rev Public Health, 19*, 173-202.

Jones, L., & Wells, K. (2007). Strategies for academic and clinician engagement in community-participatory partnered research. *Jama, 297*(4), 407-410.

Krieger, J., Allen, C., Cheadle, A., Ciske, S., Schier, J. K., Senturia, K., et al. (2002). Using community-based participatory research to address social determinants of health: lessons learned from Seattle Partners for Healthy Communities. *Health Educ Behav, 29*(3), 361-382.

Labor Market and Economic Analysis Branch. (1997). *Yakima County Profile*. Yakima, Washington: Labor Market and Economic Analysis Branch, Washington State Employment Security Department.

Lantz, P. M., Viruell-Fuentes, E., Israel, B. A., Softley, D., & Guzman, R. (2001). Can communities and academia work together on public health research? Evaluation results from a community-based participatory research partnership in Detroit. *J Urban Health, 78*(3), 495-507.

Larson, A. (2000). *Migrant and Seasonal Farmworker Enumeration Profiles Study: Washington*: Migrant Health Program, Bureau of Primary Health Care, Health Resources and Services Administration.

Larson, A. (2001). *Environmental/Occupational Safety and Health*. Buda, TX: National Advisory Council on Migrant Health.

Letiecq, B. L., & Bailey, S. J. (2004). Evaluating from the outside: conducting cross-cultural evaluation research on an American Indian reservation. *Eval Rev, 28*(4), 342-357.

Linnan, L., & Steckler, A. (2002). Process Evaluation for Public Health Interventions and Research: An overview. In L. Linnan & A. Steckler (Eds.), *Process Evaluation for Public Health Interventions and Research*. San Francisco: Jossey-Bass.

Madison, A. M. (2000). Language in Defining Social Problems. *New Directions for Evaluation, 86*, 17-28.

McAllister, C. L., Green, B. L., Terry, M. A., Herman, V., & Mulvey, L. (2003). Parents, practitioners, and researchers: community-based participatory research with early head start. *Am J Public Health, 93*(10), 1672-1679.

McCauley, L. A., Beltran, M., Phillips, J., Lasarev, M., & Sticker, D. (2001). The Oregon migrant farmworker community: an evolving model for participatory research. *Environ Health Perspect, 109 Suppl 3*, 449-455.

McCurdy, S. A., & Carroll, D. J. (2000). Agricultural injury. *Am J Ind Med, 38*(4), 463-480.

Meade, C. D., & Calvo, A. (2001). Developing community-academic partnerships to enhance breast health among rural and Hispanic migrant and seasonal farmworker women. *Oncol Nurs Forum, 28*(10), 1577-1584.

Monaghan, P., & Forst, L. (2006, November 4-8, 2006). *Adapting A Community Health Worker Model To Reduce Eye Injuries Among Citrus Workers.* Paper presented at the Public Health and Human Rights: American Public Health Association 134th Annual Meeting and Exposition Boston, MA.

Moses, M. (1993). Farmworkers and Pesticides. In R. Bullard (Ed.), *Confronting Environmental Racism: Voices from the Grassroots*. Boston: South End Press.

National Safety Council. (2000). *Injury Facts*. Itaska: National Safety Council.

Parker, E. A., Israel, B. A., Williams, M., Brakefield-Caldwell, W., Lewis, T. C., Robins, T., et al. (2003). Community action against asthma: examining the partnership process of a community-based participatory research project. *J Gen Intern Med, 18*(7), 558-567.

Potvin, L., Cargo, M., McComber, A. M., Delormier, T., & Macaulay, A. C. (2003). Implementing participatory intervention and research in communities: Lessons learned from the Kahnawake Schools Diabetes Prevention Project in Canada. *Social Science and Medicine, 56*, 1295-1305.

Quandt, S., Arcury, T., Austin, C., & Cabrera, L. (2001). Preventing occupational exposure to pesticides: Using participatory research with latino farmworkers to develop an intervention. *Journal of Immigrant Health, 3*(2), 85-96.

Quandt, S. A., Arcury, T. A., & Pell, A. I. (2001). Something for everyone? A community and academic partnership to address farmworker pesticide exposure in North Carolina. *Environ Health Perspect, 109 Suppl 3*, 435-441.

Quandt, S. A., Doran, A. M., Rao, P., Hoppin, J. A., Snively, B. M., & Arcury, T. A. (2004). Reporting pesticide assessment results to farmworker families: development, implementation, and evaluation of a risk communication strategy. *Environ Health Perspect, 112*(5), 636-642.

Rothman, N. L., Lourie, R. J., & Gaughan, J. (2002). Lead awareness: North Philly style. *Am J Public Health, 92*(5), 739-741.

Shadbeh, N., Farquhar, S., & Samples, J. (2006, November 4-8, 2006). *Promoting the Occupational Health of Indigenous Farmworkers.* Paper presented at the Public Health and Human Rights: American Public Health Association 134th Annual Meeting and Exposition, Boston, MA.

Sidani, S., & Braden, C. (1998). *Evaluating Nursing Interventions: A Theory-Driven Approach.* Thousand Oaks: Sage Publications.

Snyder, K. (2001). *Body Wise: Perceptions of health and safety risks for Latina apple warehouse workers in Washington state.* Unpublished Dissertation, University of Washington, Seattle.

Strickland, J. C. (2006). Challenges in Community-based Participatory Research Implementation: Experiences in Cancer Prevention With Pacific Northwest American Indian Tribes. *Cancer Culture and Literacy, 13*(3), 230-236.

Sullivan, M., Kone, A., Senturia, K. D., Chrisman, N. J., Ciske, S. J., & Krieger, J. W. (2001). Researcher and researched--community perspectives: toward bridging the gap. *Health Educ Behav, 28*(2), 130-149.

U.S. Bureau of the Census. (2000). *1999 American Community Survey Profile for Yakima County.* Washington: U.S. Bureau of the Census.

Villarejo, D. (2003). The health of U.S. hired farm workers. *Annu Rev Public Health, 24*, 175-193.

Wallerstein, N. (1999). Power between evaluator and community: research relationships within New Mexico's healthier communities. *Soc Sci Med, 49*(1), 39-53.

Wallerstein, N., & Duran, B. (2003). The Conceptual, Historical, and Practice Roots of Community-based Participatory Research and Related Participatory Traditions. In M. Minkler & N. Wallerstein (Eds.), *Community-based Participatory Research for Health* (pp. 27-52). San Francisco: Jossey-Bass.

Wallerstein, N. B., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Health Promot Pract, 7*(3), 312-323.

CHAPTER 2

Environmental Justice: Implications for Occupational Health Nurses

Minority workers are overrepresented and suffer a disproportionate burden of morbidity and mortality in hazardous industries (Frumkin, Walker, & Friedman-Jimenez, 1999). In addition, a disproportionate number of minority residents live in hazardous communities (Geiser & Rosenberg, 2006). The environmental justice (EJ) movement is a collective voice for these marginalized workers and residents living with environmental injustice in their workplaces, neighborhoods and homes. Within occupational and environmental health nursing, the EJ movement provides an important social perspective on environmental and occupational health that supplements nurses' knowledge about risks related to the physical environment. Such a perspective is valuable to nurses because it offers a lens through which to see the complexities of occupational and environmental health from the viewpoint of those most directly affected.

The purpose of this article is to provide an historical overview of the EJ movement, critically discuss contemporary EJ theory, and suggest implications for occupational health nurses in practice, education, and research.

Historical Overview

The EJ movement has been described as a river with multiple tributaries. Although these tributaries overlap, this metaphor provides a useful starting point for understanding the origins and dimensions of the movement. Major EJ movement

tributaries identified by Cole and Foster (2000) are Native American struggles, the labor

movement, the anti-toxics movement, and the civil rights movement (Figure 1). The

mainstream environmental movement and academia have made additional contributions.

Native American Struggles

Since the arrival of Europeans on American soil, indigenous peoples have

endured a legacy of genocide and displacement (Pulido, 1996). Environmental

exploitation remains central to their struggles. An infamous historical example was a

shootout at Pine Ridge South Dakota in 1975, which occurred while a corrupt tribal chair

was signing away rights to the sacred Black Hills to major oil companies for mineral

exploration (Cole & Foster, 2001). In addition to the exploitation of sacred land,

resource-extractive practices, such as mining for uranium in the Southwest, continue to

plague workers and residents and create an impetus for organization. The Indigenous

Environmental Network is currently campaigning to clean up mining practices on tribal

lands (Shimek, 2006).

Through their experiences with federal and state governments fighting for rights

to their native lands and cultural practices, tribal communities have helped develop the EJ

movement's concept of self-determination, captured in the credo "We speak for

ourselves" (Cole & Foster, 2001). The credo embraces the idea that communities have

the right to determine their own destinies, in contrast to being on the receiving end of

exploitive government and corporate decision making (Cable, Mix, & Hastings, 2005).

The Labor Movement

The quest for self-determination in EJ continued to evolve with the development of the labor movement. Latino farmworkers' struggle for worker autonomy and control over their workplaces is an excellent example. In the 1960's, César Chávez and Dolores Huerta organized workers in the San Joaquin Valley, California by knocking on doors and holding house meetings. This direct and personable organizing approach led to the famed Delano grape strike of 1965 and culminated in a contract between the United Farm Workers' Organizing Committee and California grape growers in 1970 (Pulido & Peña, 1998). Organizers helped workers secure the right to make decisions in the workplace through worker-controlled health and safety committees and gain access to information, giving them the power to make decisions about workplace exposures to health risks. Building on their collective action, California farmworkers secured legislative changes including the right to unionize (Pulido & Peña, 1998).

The EJ movement was also fueled by industrial union activists who offered a different organizational tactic to replace company-sponsored 'environment verses job' rhetoric (Novotny, 2000). Coalitions between the Oil, Chemical and Atomic Workers Union and environmentalist groups worked to gain support for the 1963 Nuclear Test Ban, oppose the sterilization of women working for American Cynamid, and oppose radiation hazards in plants and chemical industry polluting. They further worked to train union and community activists in health and safety and the connection between jobs and the environment (Cole & Foster, 2001). Today this work continues through the Just

Transition Alliance (a coalition of environmental and economic justice activists) and the United SteelWorkers' Union. Through its ongoing fight for control over health and safety in the workplace, the labor movement has contributed organizational strategies to the EJ movement and supports the goals of safe jobs and healthy environments (Bravo & View, 2006).

The Anti-Toxics Movement

In August, 1978, President Carter declared Love Canal, New York, a disaster area and issued emergency funds for its residents. Years earlier, the community had been built upon a hazardous waste site. In 1978, with record rainfall, chemicals leached out of corroded waste drums, seeped into residents' basements, and created chemical puddles in their yards (McNeil, 1978). For the first time, emergency funds were appropriated for an event other than a natural disaster. This action brought national attention to protecting communities from toxic environmental disasters, thereby increasing the coverage of what was becoming an issues of concern for many communities throughout the United States (Beck, 1978).

Disasters like Love Canal reinforce EJ activists' conceptualization of the environment as "where we live, work, and play" highlighting the need for data on health risks associated with chronic and cumulative exposures (as opposed to single agent risks) in the context of everyday life (Novotny, 2000, p. 3). Thus, in addition to their direct action work, anti-toxics organizations contributed to the EJ movement by grappling with, and sometimes, discrediting, existing science and technical information. Their work

promotes change in policies and restructuring of economic systems known to pollution (Cole & Foster, 2001).

The Civil Rights Movement

In 1982, in Warren County, North Carolina, residents protested the placement of a poly-chlorinated biphenyl (PCB) landfill in their community. Although the community was unsuccessful in preventing the landfill, the issue catalyzed the African-American community to organize for change (Novotny, 2000). Strategies included sit-ins, marches, and non-violent acts of civil disobedience, led by church-based leaders including Rev. Benjamin Chavis and Charles Lee, both of whom gained their organizing expertise during their work as civil rights leaders. Through a report entitled "Toxic Waste and Race in the United States," they demonstrated the influence that systematic racial oppression had in creating disproportionate exposures to environmental contaminants among communities of color. This report influenced the EJ movement becuase it isolated race as the most significant variable in the location of commercial hazardous waste facilities. It also contributed the term "environmental racism" to the EJ struggle (United Church of Christ's Commission for Racial Justice, 1987).

In addition to contributing organizational tactics and an influential report illustrating the existence of environmental racism, the civil rights tributary contributed an inclusive racial lens through which diverse people of color could relate. Many EJ activists organized around the fact that they, as people of color, were experiencing more risk from environmental contaminants than other socially defined groups. This shared

fate created a powerful collective identity among diverse groups including Native Americans, African Americans, Latinos, and Asian Americans (Taylor, 2000). Leaders, often women of color, emerged from these grass roots struggles (Adamson, 2002).

Relation of the EJ Movement to the Mainstream Environmental Movement

Many are surprised to discover the EJ movement is not simply a branch of the mainstream environmental movement. On the contrary, EJ activists historically resisted many of the practices of mainstream environmental organizations. On Earth Day, 1991, EJ activists and EJ organizations sent a letter to representatives of the ten largest environmental groups. The letters outlined concerns about the groups' relationships with polluting corporations, policies that eliminated environmental hazards at the cost of local jobs, and exclusionary hiring practices for board and staff positions (Rechtschaffen & Gauna, 2002b).

EJ scholars argue that social background and position affect encounters with and responses to environmental issues (Pulido & Peña, 1998). EJ organizations are composed predominantly of people of color and primarily serve low to middle income populations (Taylor, 2000) EJ activists conceptualize the environment broadly (where we live, work, and play) and in relation to their life experience. Thus, they campaign to protect their homes, neighborhoods, and workplaces (Novotny, 2000). The EJ movement, writes Taylor (2000), "… is the first paradigm to link environment and race, class, gender, and social justice concerns in an explicit framework" (p. 542). Notably, in the years since the

"Earth Day" letter was sent, collaborative partnerships between EJ and mainstream environmental groups have evolved (Adamson, 2002).

Academia

As early as the late 1970's, Robert Bullard studied the relationship between land use patterns and race, which led to his landmark book Dumping in Dixie: Race, class, and environmental quality (1990). Based on this work, and others like it, empirical credibility began to build for the EJ movement, complimenting its early case-based approach (Taylor, 2000). Academics provide technical expertise to and legitimize struggles of community groups through written reports, extensive bibliographies, public websites, and national networking. Many of these resources can be accessed through university webpages like the one maintained by the University of Washington (http://depts.washington.edu/envhlth/info/env_justice/resources.html) (Sanchez, 2006).

In 1990, several academics, led by Bunyon Bryant, from the University of Michigan, and Charles Lee, primary author of "Toxic Waste and Race in the United States," hosted conferences on disparate environmental impacts. They laid the groundwork for a federal response to the growing EJ movement. Multiple meetings between academics and later with EPA Administrator William Reilly, led to the creation of what is now known as the Office of Environmental Justice (Cole & Foster, 2001).

A National Response

The EJ tributaries coalesced into a river whereby isolated community struggles were transformed into a national social movement. In 1992 hundreds of EJ activists met

in Washington D.C. to hold The First National People of Color Environmental Leadership Summit. Cole and Foster (2002) write,

> Unprecedented alliances were formed ... and participants made conceptual linkages between seemingly different struggles, identifying common themes of racism and economic exploitation of people and land. Many there came to understand their issues in the context of a larger movement, and on a deeper level than before (p.32).

Summit participants ratified seventeen EJ principles. The principles define the EJ movement's vision and link ecological, labor and social justice concerns (Rechtschaffen & Gauna, 2002a; Taylor, 2000). The principles cover six general areas (Taylor, 2000): 1) ecological principles, 2) justice and environmental rights, 3) autonomy/self-determination, 4) corporate-community relations, 5) policy, politics, and economic processes, and 6) social movement building.

Shortly thereafter, in 1994, then-President Clinton signed Executive Order 12898, titled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (Clinton, 1994). This executive order established an interagency work group and mandated that each federal agency develop an EJ strategy "that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, or activities on minority populations and low-income populations" (Rechtschaffen & Gauna, 2002b, p. 392). However, no new legal rights were created by Executive Order 12898. Instead, Clinton called upon

existing environmental and civil rights statutes to address the inequitable risk and burden that communities and workers had faced for decades.

Contemporary EJ Theory: A Critical Perspective

Recent federal agency interpretations of EJ, including Executive Order 12898, differ from the grassroots vision of EJ. First, many of the provisions outlined in the Executive Order are a call to research, which is only one component of a multifaceted call to action outlined in the EJ Principles adopted at The First National People of Color Environmental Leadership Summit. Further, the call for research only holds when it is "practical and appropriate," for agencies to collect, maintain, and analyze information (Rechtschaffen & Gauna, 2002b, p. 393). Although some agencies such as the Environmental Protection Agency and the National Institute of Environmental Health Sciences have embraced the call to research by funding special EJ grants, other federal agencies have taken the Executive Order as more of an "executive suggestion" and have merely "repackaged" existing agency activities as EJ initiatives (Rechtschaffen & Gauna, 2002a, p. 404).

Second, equal emphasis is given to minority and low income populations. Although issues of race and class clearly intersect in the EJ movement, racism was chosen as the foundation on which to build a social justice movement (Pulido, 1996; Taylor, 2000). Equating racial identity with class minimizes the shared history of people of color in this country, and weakens the bonds created through mutual struggle.

Third, the goal of tackling environmental racism was transformed into a goal of ensuring environmental equity. Although seemingly less inflammatory to those who are not the victims of racism, environmental equity is a different goal that commands a different response. EJ scholar Peña writes,

> Equity-based EJ theory and practice ultimately rely on regulatory- even if 'participatory'- strategies based on the fundamental demand that the state meet the needs of all individuals, regardless of race, in developing and enforcing policies in the distribution of environmental risks and benefits (Peña, 2003a, p. 6).

Relying on governmental systems (e.g. judiciary and legislative bodies) to assist workers and communities in realizing their goal of an environmentally just world is counterintuitive, as these systems are responsible for the inception and propagation of environmental injustice. In contrast, autonomy-based EJ theory embraces the collective use of the cultural and financial capital of the affected population as well as the cooperative labor of social groups created in everyday life, to work towards EJ (Peña, 2003a).

Contemporary EJ theory shifts the focus from an inequitable distribution of environmental pollution, risk, and burden to an emphasis on strength-based approaches that secure local control (autonomy) over environmental assets and amenities. Examples include rural communities that, as an alternative to engaging in dangerous industries such as mining and logging, have developed an economic base or "natural capital" through their use of traditional and ecologically supportive farming methods (Peña, 2003b, p.

181). Urban community gardens have been shown to increase local food security, sovereignty, and cultural traditions, such as maintaining communal spaces (Pinderhughes, 2003). These examples illustrate the increase of local control over land use. They also highlight the value of using preexisting social networks organized through civic (vs. state) organizations to promote EJ.

<div align="center">Implications for Occupational Health Nurses</div>

Nurses consider EJ an important component of environmental health (Powell & Slade, 2003; Sattler, 2005). However, nursing literature unnecessarily limits the occupational health nurse's role in promoting EJ by limiting the discussion to environmental health. EJ as an impetus for work within occupational health has been less defined. This emphasis, consistent with the history of labor as a contributing force in the EJ movement, should extend to incorporating EJ into occupational and environmental health nursing. That said, the following implications for occupational health nurses reflect three dimensions of the EJ movement as it applies to both environmental and occupational health (table 1); 1) reconceptualization of the environment, 2) integration of self-determination in health-related decisions, and 3) use of pre-existing social networks as a strengths-based approach to working with marginalized groups. Each will be briefly described along with implications for nurses in practice, education, and research.

Reconceptualizing the Environment

EJ activists describe the environment as "where we live, work, and play." This conceptualization includes risks from the physical environment, (e.g. chemical exposure)

and dimensions of the social environment (e.g. poverty and racism). Physical and social issues are intertwined in the EJ literature; both are constructed through a cultural lens.

Practice. Fortunately, nurses have developed useful tools that reflect an EJ conceptualization of the environment as part of basic health assessment. The I PREPARE mnemonic (Investigate Present work, Residence, Environmental concerns, Past work, Activities, Referrals and resources, Educate) prompts clinicians to ask questions specific to environmental and work exposures, including potential take-home exposures, hobbies, or work done at home, and educate and refer clients to further resources (Paranzino, Butterfield, Nastoff, & Ranger, 2005). The I PREPARE mnemonic provides occupational health nurses with an efficient means of assessing potential work and non-work exposures that may affect workers and their families. It may also provide an opportunity to teach workers about potential take-home exposures.

Clinicians must be aware of prevalent or potential occupational and environmental risks in the community where their clients live and work, as well as the social determinants that compound those risks. Consider a child with an elevated blood lead level. In addition to exposure from old house paint, a parent tracking lead home from the workplace compounds the child's exposure. Social factors such as poverty and malnutrition (in this case, a diet lacking calcium) could cause increased lead absorption. In contrast to traditional risk assessment, where one compound at a time is considered for its potential harm, recognizing cumulative risk necessitates identifying potential additive or synergistic effects of biopsychosocial exposures so that appropriate actions are taken.

Education. Although occupational health nurses practice in diverse work and community settings, they are a relatively homogenous group (primarily White and female) who do not necessarily share the same sociocultural background as their clients (M. K. Salazar, Kemerer, Amann, & Fabrey, 2002). The benefit to learning EJ through case studies is the incorporation of elements of social science with elements of natural science. This creates an integrated and more accurate portrayal of the complexities nurses face when addressing health concerns of affected communities.

The Mississippi Delta Project, a collaboration among Howard University, the Agency for Toxic Substances and Disease Registry, and the Minority Professions Foundation, includes a curriculum of modules on the roles of culture, poverty, and economic development in environmental health and EJ in the Mississippi River Delta. Learning activities, such as sharing stories with residents, taking oral histories of community leaders, and reading ethnographic studies, can be easily be adapted to examine the experiences of vulnerable workers in any region. Such activities would assist occupational and environmental health nursing students and their instructors in critically examining the ways racism, White privilege, and culture influence workers' experiences and health in a racialized society. Additionally, these exercises encourage White participants to examine their own social positions and roles in reproducing White privilege.

Research. Adopting a conceptualization of the environment that includes social and cultural considerations compels occupational health nurse researchers to critically

examine the risks and benefits of emerging technologies for vulnerable front-line workers and their families (L. McCauley, 2005). For example, although there is more genetic variation within than between socially identifiable groups (Sze & Prakash, 2004), there is fear that genetic testing in the workplace will lead to a genetic underclass and diminish the role of environmental controls (Schill, 2000).

Various strategies for genetic research with particular ethnic groups have been proposed. However, regulatory guidelines for human subjects do not currently consider potential harms to non-participants, termed "group harm," although social groups risk discrimination in employment and insurance opportunities (Sharp & Foster, 2002; Sze & Prakash, 2004). Research must be directed at identifying ethical frameworks that use collective autonomy to guide decision-making in this arena. Furthermore, current biomedical ethical frameworks currently used by occupational health professionals create tension between principles of beneficence and nonmaleficence, on the one side, and autonomy and justice on the other. Although occupational health professionals have an obligation to act in the best interest of the workers, they are also responsible for upholding workers' right to self-determination and confidentiality. In the case of testing for genetic vulnerabilities, these ethical principles may be at odds (Rogers, 2000).

Integrating Self-determination in Health Related Decisions

Occupational health nurses must consider ways in which workers and community members are included in decision-making processes that affect their health and home. Self-determination speaks to the need for representation by those directly affected by

risks and hazards associated with work or community life. Similar to the notion of autonomy in biomedical ethics, self-determination is a dimension of the EJ movement that is integral to nursing practice, education and research.

Practice. Collaborating with workers or community members to create "risk maps" of hazards in their environment is one way to track problems and seek solutions. Creating a risk map involves drawing a schematic of the workplace and inviting participants to mark where different hazards exist. Different shapes or colors may be used to distinguish types of hazards (i.e., physical, chemical, safety, ergonomic, and psychosocial). A number scale may be used to indicate the seriousness of the hazard. In addition, a body map may be used to mark common aches, pains, and illnesses that workers associate with the hazard. To be used effectively, this exercise should serve as evidence of problem areas and brought to management to collaborate on solutions (Brown, 2003). Strengths-based solutions can also be identified through a process called "asset mapping" whereby participants identify their collective skills and build upon their existing resources in order to help ensure a safe workplace and community environment (Kretzmann & McKnight, 1993).

Education. In the context of occupational health, worker autonomy has historically been negotiated through collective bargaining (i.e. unions), an approach that has effected considerable change for vulnerable workers. Although only about 14% of workers in the United States are currently unionized, one of the fastest growing groups of workers securing union representation is immigrant workers in the service sector

(Silverstein & Mirer, 2000). Unfortunately, the history of labor and its current climate are not given much attention in U.S. occupational and environmental health nursing programs (Baker, Szudy, & Guerriero, 2000).

One approach to educating students about strategies to affect change involves placing undergraduate nursing students with union organizers for their community clinical experience. Likewise, graduate students could work on research projects with union representatives. If union representatives are not available, students could work with health and safety committee representatives to identify barriers to health and safety within a company's organizational culture and structure and ways to remediate identified problems. Students are also encouraged to participate in the Occupational Health Internship Program organized through the Association of Occupational and Environmental Clinics (Association of Occupational and Environmental Health Clinics, 2005). In addition to traditional coursework, such experiences offer students the opportunity to view work from the perspective of the worker, note the gaps in the regulatory framework, and contribute to the union and worker health and safety missions. Furthermore, they allow students to develop a different set of advocacy skills that are useful when working as an occupational health nurse (Baker, Szudy, & Guerriero, 2000). Alternatively, organizing skills could be learned through internships set up at local EJ organizations, community-based organizations, or university-community partnership organizations (Rao, Arcury, & Quandt, 2004).

Research. Research is a contentious issue for many people of color in the U.S. The EJ mantra, "We speak for ourselves," talks back to historical injustices ranging from the infamous Tuskegee Syphilis study, with African American men from 1932-1972, (Centers for Disease Control and Prevention, 2006) to the covert sterilization of Latina women from the 1940s-1970s (Espino, 2000; Hartmann, 1995). Among the indigenous, researchers have a long history of misrepresentation (Mihesuah, 1998).

Community-based participatory research (CBPR) aims to engage community members alongside scientists in the research process in order to create action for social change. CBPR stems from the recognition that inequities in health status are not due to individual level risk factors alone: rather, inequities are embedded within unjust social, political, and economic systems that coalesce at the community level (Israel, Schulz, Parker, & Becker, 1998). This recognition has made CBPR a palatable research approach for collecting and analyzing data on disproportionate occupational and environmental risks and culturally-appropriate interventions.

The community-based lead poisoning prevention program "Lead Awareness: North Philly Style" is an example of effective community-based research. Temple University partnered with community organizations to develop and deliver a lead prevention intervention to an economically-disadvantaged, urban, African-American population. Consequently, "Lead Awareness: North Philly Style" has led to a variety of service projects involving academic nursing centers, funded by the Environmental Protection Agency. It provides a model for nursing researchers who wish to partner with

communities to "speak for themselves" and develop innovative, culturally-relevant interventions (Rothman, Lourie, & Gaughan, 2002).

Appreciating the Strength of Social Networks

Using existing social networks when working with economically marginalized workers and communities is essential in occupational and environmental health nursing. Too often, social groups are defined by their deficits and categorized by their need. (See the description of the population described above for an example of this phenomenon.) An asset-based approach considers potential solutions, rather than focusing on problems, by recognizing the value of social networks in all aspects of program delivery, theory building, and research.

Practice. Through their role in program development, occupational health nurses have an opportunity to apply creative solutions to complex problems. Partnering with workers and management to develop programs that nurture social networks already present in a community is a strengths-based approach to preventing environmental and occupational health injury and illness. For example, the Mixteco/Indigena Community Organizing Project is a program serving immigrants who work in the agricultural sector. The program includes Spanish literacy classes (Mixteco is a spoken, but not written, language), interpreter and outreach worker training, well-baby classes, and cultural events for Mixtec families. Although the institutional partner in this collaboration is a health care organization, such programs are likely to improve both occupational and community health, as workers meet other Mixtec families, communicate with Spanish

speaking coworkers, and seek health advice from outreach workers (Navarette & Young, 2006).

A recent American Public Health Association resolution promoting occupational health and safety protections for immigrant workers extends this approach by recommending collaboration with "community, faith-based, and worker organizations ...to establish outreach centers to train workers about their rights" (American Public Health Association, 2005, p. 8). Both approaches stem from an appreciation of pre-existing social networks based on culture, faith, and/or work to reach populations who may not otherwise receive health-related services.

Education. Because social justice is central to EJ, teaching conceptual frameworks that capture the complexity of social networks are necessary for developing a practice that reflects increasing globalization. For example, the conceptual framework called "Organization-In-Environment" incorporates multiple theories about the social environment including social justice, the political economy, horizontal (social interactions between communities and organizations within a shared geographic space) and vertical (social interactions outside the immediate community, to the larger culture and society) linkages, organizational and environmental dimensions, and interorganizational collaboration. This enables recognition of common areas, where networks between communities and other local, state, and national organizations can be created or enhanced (Mulroy, 2004). Through the use of this framework the Mulroy illustrates how one organization grappled with a community's lack of affordable housing

and job training programs. Homelessness was redefined as a community problem verses an individual one and the Organization-In-Environment framework was used to create horizontal and vertical linkages between organizations to tackle the problem. This approach echoes EJ movement issues and strategies for change in that EJ is social justice and its issues demand social solutions.

Research. Researchers must document the destruction of social networks through deleterious changes in the built environment, defined as the physical aspects of where we live and work (Centers for Disease Control and Prevention, 2006), and the implications these phenomena have on health. Techniques adapted from the social sciences can assist nurse researchers in mapping social networks. For example, participant observation was used in one study to track how community members move between home, work, school, parks, churches and small businesses in their neighborhoods. Interviews were conducted to qualify risk and quantify the number of people affected by a large-scale transportation project, including many small business owners who were viewed as the pillars of their community. The resulting "social impact statements" supplement data documenting physical risks in "environmental impact statements." The addition of this sort of evidence paints a more complete picture of the social risks to a community associated with changes to the built environment (Peña, 2000).

Applying Research to Practice

Aforementioned implications that focus specifically on the practicing occupational and environmental health nurse include using innovative tools (i.e.

mnemonics), exercises (i.e. risk and asset mapping), and strategic program development to incorporate EJ dimensions into occupational and environmental health nursing practice. For occupational health nurses who also take on educational roles, activities that incorporate EJ include using case studies and networking with labor and EJ groups to provide clinical experiences for OEHN students. Occupational health nurses may have opportunities to participate in research efforts; they are encouraged to share their knowledge and experience on the implications of emerging technologies in the workplace. They are also well-positioned to serve as technical experts within community-based participatory research projects.

These activities are not constrained to the workplace. In fact, they may be more effectively used or taught in community settings where workers potentially have more opportunities to exhibit their strengths as leaders, speak about their experiences without feeling threatened, and organize themselves to ensure their health and safety in the workplace.

In addition, occupational health nurses may complement their roles beyond that of leading initiatives to improve worker health. They may serve as members of coalitions directed by EJ leaders. Such collaboration gives occupational health nurses an opportunity to offer a particular breadth of knowledge and skills to communities. Such interdisciplinary work is not new for occupational health nurses, but could be enhanced through partnerships with community members who are similarly focused on worker health.

Conclusion

Appreciating the complexity of how EJ intersects with occupational and environmental health requires creative approaches in practice, education, and research. This article has reviewed EJ history, critically examined contemporary EJ theory, and outlined broad implications for nurses along three important dimensions. From this framework occupational health nurses can begin to appreciate the social realities of workers and communities who are living with disparate exposure and health outcomes and work as allies in their quest for environmental justice.
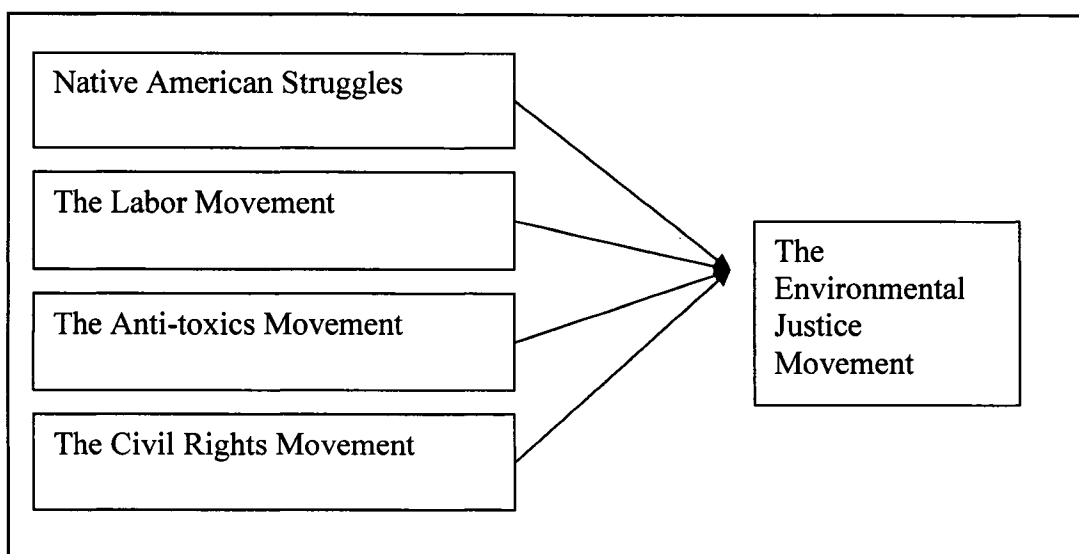
Figure 1. Major environmental justice movement tributaries

Table 1. Dimensions of environmental justice and associated implications for nurses

EJ Dimension	Practice	Education	Research
Reconceptualizing the environment as "where we live, work, and play"	● Assessment including take-home exposures, cumulative risk, social determinants	●Mississippi Delta Project case study and modules adapted to occupational health	●Sociocultural implications of emerging technologies
Integrating self-determination in health related decisions, "We speak for ourselves"	●Worker participation in problem and solution definition (risk and asset maps)	●Clinicals and internships with unions, health and safety committees, EJ organizations	●Community-based Participatory Research
Appreciating the strength of social networks	●Innovative program development and delivery	●Theoretical frameworks that capture social environment(s)	●Methods to identify social networks

39

Notes to Chapter

Notes to Chapter

Adamson, J. (2002). Throwing rocks at the sun: An interview with Teresa Leal. In J. Adamson, M. Evans & R. Stein (Eds.), *The Environmental Justice Reader: Politics, Poetics and Pedagogy*. Tucson: The University of Arizona Press.

American Public Health Association. (2005). *Occupational health and safety protections for immigrant workers*. Retrieved 3/1/2006, from http://www.apha.org/legislative/policy/policysearch/index.cfm?fuseaction=view&id=1318.

Association of Occupational and Environmental Health Clinics. (2005). *Occupational Health Internship Program*. Retrieved 5/8/2006, from http://www.aoec.org/OHIP/home.htm.

Baker, R., Szudy, B., & Guerriero, J. (2000). Working with labor unions. What occupational health nurses need to know. *AAOHN Journal, 48*(12), 563-570; quiz 571-562.

Beck, E. C. (1978). *The love canal tragedy*. Retrieved 3/1/2006, from http://www.epa.gov/history/topics/lovecanal/01.htm.

Bravo, J. T., & View, J. (2006). *Info and action brief: Two year annual report 2003-2005*. Retrieved 3/1/2006, from http://www.jtalliance.org/.

Brown, M. (2003). Risk mapping as a tool for community-based participatory research and organizing. In M. Minkler & N. Wallerstein (Eds.), *Community-based Participatory Research for Health* (pp. 446-450). San Francisco: Jossey-Bass.

Cable, S., Mix, T., & Hastings, D. (2005). Mission impossible? Environmental justice activists' collaborations with professional environmentalists and with academics. In D. N. Pellow & R. J. Brulle (Eds.), *Power, justice, and the environment: A critical appraisal of the environmental justice movement*. Cambridge: The MIT Press.

Centers for Disease Control and Prevention. (2006). *Advancing the Nation's Health: A Guide to Public Health Research Needs, 2006 - 2015*. Retrieved 12/26/06, 2006, from http://www.cdc.gov/od/science/PHResearch/cdcra/Guide_to_Public_Health_Research_Needs.pdf.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

Clinton, W. J. (1994). *Executive Order: Federal actions to address environmental justice in minority populations and low income populations*. Retrieved 1/31, 2007, from http://www.epa.gov/fedrgstr/eo/eo12898.pdf.

Cole, F., & Foster, S. (2001). *From the ground up: Environmental racism and the rise of the environmental justice movement*. New York: New York University Press.

Espino, V. (2000). Women sterilized as they give birth: Forced sterilization and Chicana resistance. In V. Ruiz (Ed.), *Las obreras: Chicana politics of work and family*. Los Angeles: Chicano Studies Research Center, UCLA.

Frumkin, H., Walker, E. D., & Friedman-Jimenez, G. (1999). Minority workers and communities. *Occup Med, 14*(3), 495-517.

Geiser, K., & Rosenberg, B. (2006). The Social Context of Occupational and Environmental Health. In B. Levy, D. H. Wegman, S. L. Baron & R. K. Sokas (Eds.), *Occupational and Environmental Health: Recognizing and Preventing Disease and Injury* (pp. 21-38). Philadelphia: Lippincott, Williams and Wilkins.

Hartmann, B. (1995). *Reproductive rights and wrongs*. Boston: Beacon Press.

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annu Rev Public Health, 19*, 173-202.

Kretzmann, J. P., & McKnight, J. (1993). *Building community from the inside out: A path toward finding and mobilizing a community's assets*. Evanston, IL: Center for Urban Affairs and Policy Research, Northwestern University.

McCauley, L. (2005). Advances in genetics and technology: Implications for occupational health. *AAOHN Journal, 53*(12), 514.

McNeil, D. G. (1978, August 2). Upstate waste site may endanger lives. *The New York Times,* pp. A1, B9.

Mihesuah, D. (1998). Introduction. In D. Mihesuah (Ed.), *Natives and Academics: Researching and writing about American Indians* (pp. 1-22). Lincoln: University of Nebraska Press.

Mulroy, E. (2004). Theoretical perspectives on the social environment to guide management and community practice: An organization-in-environment approach. *Administration in Social Work, 28*(1), 77-96.

Navarette, C., & Young, S. (2006). *Best practices in serving Oaxacan indigenous farmworkers.* Paper presented at the Western Migrant Stream Forum, Portland, OR.

Novotny, P. (2000). *Where we live, work, and play: The environmental justice movement and the struggle for a new environmentalism* London: Praeger.

Paranzino, G., Butterfield, P., Nastoff, T., & Ranger, C. (2005). I PREPARE: Development and clinical utility of an environmental exposure history pneumonic. *AAOHN, 53*(1), 37-42.

Peña, D. (2000). *Environmental justice analysis of the Sound Transit light rail preferred alternative and final environmental impact statement* Seattle.

Peña, D. (2003a). *Autonomy, equity, and environmental justice.* Paper presented at the Provost's Lecture Series on Race, Poverty, and Environmental Justice Brown University, Providence, Rhode Island.

Peña, D. (2003b). The Watershed commonwealth of the Upper Rio Grande. In J. K. Boyce & B. G. Shelley (Eds.), *Natural Assets: Democratizing Environmental Ownership* (pp. 169-185). London: Island Press.

Pinderhughes, R. (2003). Poverty and the environment: The urban agriculture connection. In J. K. Boyce & B. G. Shelley (Eds.), *Natural Assets.* London: Island Press.

Powell, D., & Slade, D. (2003). Advocating for environmental justice: Protecting vulnerable communities from pollution. In B. Sattler & J. Lipscomb (Eds.), *Environmental health and nursing practice* (pp. 321-338). New York: Springer Publishing Company.

Pulido, L. (1996). Development of the "people of color" identity in the environmental justice movement of the southwestern United States. *Socialist Review, 26,* 145-180.

Pulido, L., & Peña, D. (1998). Environmentalism and positionality: The early pesticide campaign of the United Farm Workers' Organizing Committee, 1965-71. *Race, Gender & Class, 6*(1), 33-50.

Rao, P., Arcury, T., & Quandt, S. (2004). Student participation in community-based participatory research to improve migrant and seasonal farmworker environmental health: Issues for success. *The Journal of Environmental Education, 35*(2), 3-15.

Rechtschaffen, C., & Gauna, E. (2002a). *Environmental Justice: Law, policy and regulation*. Durham, North Carolina: Carolina Academic Press.

Rechtschaffen, C., & Gauna, E. (2002b). *Environmental Justice: Law, Policy, and Regulation*. Durham: Carolina Academic Press.

Rogers, B. (2000). Ethical principles and occupational health. *AAOHN Journal, 48*(10), 456-457.

Rothman, N. L., Lourie, R. J., & Gaughan, J. (2002). Lead awareness: North Philly style. *Am J Public Health, 92*(5), 739-741.

Salazar, M. K., Kemerer, S., Amann, M. C., & Fabrey, L. J. (2002). Defining the roles and functions of occupational and environmental health nurses. Results of a national job analysis. *AAOHN Journal, 50*(1), 16-25.

Sanchez, Y. (2006). *Environmental Justice*. Retrieved 7/25/2006, 2006, from http://depts.washington.edu/envhlth/info/env_justice/index.html.

Sattler, B. (2005). Policy perspectives in environmental health: Nursing's evolving role. *AAOHN Journal, 53*(1), 43-51.

Schill, A. L. (2000). Genetic information in the workplace. Implications for occupational health surveillance. *AAOHN Journal, 48*(2), 80-91.

Sharp, R. R., & Foster, M. W. (2002). Community involvement in the ethical review of genetic research: Lessons from American Indian and Alaska Native populations. *Environ Health Perspect, 110 Suppl 2*, 145-148.

Shimek, R. (2006). *Mining campaign*. Retrieved 3/1/2006, from http://www.ienearth.org/mining_campaign.html.

Silverstein, M., & Mirer, F. E. (2000). Labor unions and occupational health. In B. S. Levy & D. H. Wegman (Eds.), *Occupational Health: Recognizing and Preventing Work-Related Disease and Injury* (pp. 715-728). Philadelphia: Lippincott Williams and Wilkins.

Sze, J., & Prakash, S. (2004). Human genetics, environment, and communities of color: ethical and social implications. *Environ Health Perspect, 112*(6), 740-745.

43

Taylor, D. E. (2000). The Rise of the environmental justice paradigm: Injustice framing and the social construction of environmental discourse. *American Behavioral Scientist, 43*(4), 508-580.

United Church of Christ's Commission for Racial Justice. (1987). *Toxic wastes and race in the United States: A national report on the racial and socioeconomic characteristics of communities with hazardous waste sites*. New York: Public Data Access, Inc.

CHAPTER 3

Negotiating "Environmental Justice" in El Proyecto Bienestar

(The Wellbeing Project)

Background

Eliminating health disparities is a primary goal of Healthy People 2010 (U.S. Department of Health and Human Services, 2004). Community-based Participatory Research (CBPR) has been identified by several federal agencies as one approach to address differential health risks faced by politically and economically marginalized populations (Department of Health and Human Services, 2007). In contrast to traditional research where scientists are responsible for knowledge generation, CBPR partners scientists with communities with the intent to co-produce knowledge and link it with social action (Israel, Schulz, Parker, & Becker, 1998).

In occupational and environmental health, CBPR has been federally funded through a research program titled, "Environmental Justice: Partnerships for Communication" (National Institute of Environmental Health Sciences, 2006). This program evolved from Executive Order 12898 which charged federal agencies with developing policies and procedures to address the disparate impact that environmental hazards have on communities of color and low-income communities (Shepard, 2002). The program aimed to build capacity between academia, government agencies, and

community members by incorporating communities' concerns into research agendas (Shepard, 2002).

Responding to communities' concerns is a key aspect of environmental justice (EJ) efforts. EJ scholars argue that although researchers and officials may identify similar occupational and environmental health threats as community members, they do not experience the same personal risks. Differences in social position and personal experience distinguish how people articulate and respond to health threats (Pulido & Peña, 1998). Community members' views on the value of partnering with researchers to address environmental injustice has not been well studied (Cable, Mix, & Hastings, 2005).

Objectives

This paper reports the processes by which diverse participants work towards articulating and achieving EJ in one federally funded CBPR EJ project. The project's primary purpose is to develop strategies to enable the Hispanic agricultural community to identify, characterize, and respond to the many occupational and environmental health risks they face (Keifer, 2003). Specifically, this paper will 1) Describe ways in which participants negotiated the meaning of EJ, and 2) Describe how procedural justice was operationalized in the project. Implications for the co-construction of science and EJ will then be discussed.

Description of El Proyecto Bienestar

El Proyecto Bienestar, or The Well Being Project, is a federally funded CBPR project taking place in central Washington State. There are two organizational bodies within the project; the core group and the community advisory board. The core group consists of four institutional partners including a research university located outside the community, a local liberal arts university, a health care organization, and a community-based organization (CBO) that runs a local, educational, Spanish language radio station. Approximately one year into the project, the core group created a community advisory board consisting of a range of members who had experience with, or personal knowledge about, agricultural issues. Constituencies represented on the advisory board were selected by the core group through the use of a nominal group process (Delbecq, Van de Ven, & Gustafson, 1986). Months after the initial advisory board appointments, three seats were added to the community advisory board. These "at-large" positions were filled by Latino/a government agency representatives. For a full list of constituencies, ethnicities, and genders represented, see Table 2a.

Three forms of data collection were used to identify environmental and occupational health risks faced by the Hispanic agricultural community: key informant interviews, surveys, and a town hall meeting (Figure 2). *Key informant interviews* were conducted by the project coordinator and several graduate students with members of the core group and the advisory board. *Surveys* were conducted with community members over three consecutive summers. The survey information was collected by local students

who participate in a summer academic program for students interested in health careers (ConneX). In addition to participating in the development of the survey, these students recruited participants, administered the surveys, assisted with data analysis, and presented findings to project participants (J. Crowe & Keifer, 2006). From these data, three lists were developed and categorized into exposures, outcomes, and contextual factors. During the third year of the project, a *town hall meeting* was held with the farm worker community where an open microphone session elicited additional issues from the attendees, which were added to the three lists. Attendees then voted, ranking the top issues of importance to their community.

Now in its fourth and final year of funding, El Proyecto Bienestar is seeking funding to support future activities to respond to these top issues.

Research Design and Methods

The descriptive, process evaluation described in this paper is one component of the overall program evaluation. Responding to occupational and environmental health risks involves interdisciplinary efforts and cross-cultural communication. According to El Proyecto Bienestar evaluation reports, communication continues to be an area that will "...determine EPB's [El Proyecto Bienestar's] collaborative success." (M. Salazar, 2005, p. 3). Results from a 2004 survey of core group participants indicated that less than half of the respondents agreed that there is "clear open and accessible communication" between partners. The need to maintain culturally-sensitive interactions was highlighted in the 2004 year end report, and the 2005 biannual report indicates that much meeting

time has been spent discussing process issues. Thus, a more structured arrangement for communication oversight was recommended, (M. Salazar, 2005; M. K. Salazar, 2004) providing the impetus for this study.

Within the overall program evaluation, this proposed process evaluation study is designed to ensure that questions are asked about the partnership process (Parker et al., 2003), including the level of participation and influence of community members in co-creating knowledge and linking it with action.

Post-structural inquiry was used to guide a description of the different ways participants described and operationalized EJ in the context of project activities, as well as the immediate social and broader cultural context in which those conversations were produced and negotiated. A post-structural perspective assumes that meanings ascribed to language, such as "environmental justice," vary throughout time, place, and social space (Crotty, 1998). CBPR creates a new social setting for negotiating EJ theory and practice among diverse participants. By making differences in perspective explicit, post-structural inquiry aids project processes by ensuring that differences are heard and grappled with in the CBPR setting.

Sample

All participants included in this evaluation were members of either the core group or the community advisory board of El Proyecto Bienestar. A total of 30 people participated at the start of this evaluation. (Note: Not all participants were present all of the time, membership changed and attendance decreased over the course of data

collection to 20 participants). Core members included research scientists, health professionals, and leaders of CBOs (n=17). Advisory board members represented a variety of other community constituencies, including farmworkers, government agencies, and a grower organization (n=13). Women comprised 63% of participants and men comprised 37%. A small minority (47%) of participants were Latino/a, primarily from Mexico. One participant was from Puerto Rico and another participant was from Nicaragua. The remaining participants were comprised of European-Americans (43%), Native-Americans (7%), and one Chinese-American (3%), per self-report.

Data Collection

Data collection consisted of a review of text produced by participants using multiple methods in order to incorporate as many different perspectives of EJ as possible within the confines of the project. Text were produced and collected through three complementary sources; document review, participant observation, and key informant (KI) interviews.

Documents were reviewed in order to identify differences in language used to signify EJ, and to track decisions over time (e.g. the EJ definition). Documents reviewed included the project proposal, agendas, minutes, and policy statements, community advisory board member applications, and all versions of the EJ definition.

Participant observation was used to collect direct data on how participants talk about EJ and how EJ is operationalized within project activities. The investigator attended monthly core group meetings for over three years and 12 of 14 advisory board

meetings since the project began. Discussions related to 1) defining EJ, 2) selecting new advisory board members, 3) prioritizing issues, and 4) creating an action plan were transcribed for further analysis.

Semi-structured key informant interviews were conducted by the investigator with eight people; five advisory board participants and three core members. Some questions were derived from an evaluation tool developed by the Environmental Protection Agency to evaluate their EJ projects (Environmental Protection Agency, 2003). Others were developed in relation to the specific aims of the parent project. Participants were asked to discuss their views on EJ, the level of community participation in the project, progress related to project aims, and evaluation interest areas. Interviews were conducted in the participants' language of choice and audiorecorded.

Human Subjects

All core and community advisory board meetings are open to the public and audiorecorded for the purposes of an official minutes. Verbal permission to audiorecord was received by all participants before audiorecording was initiated. Data collection procedures for the key informant interviews were approved by the University of Washington Institutional Review Board.

Transcription and Translation

Core meetings were conducted in English. Joint meetings with the core and the community advisory board meetings were conducted in Spanish and English. One interpreter was present at all advisory board meetings and all but one interview, ensuring

consistency in interpretation. With the exception of the first advisory board meeting, the interpreter provided simultaneous Spanish and English translation. Transcripts were created in a four step process: 1) While listening to the English translation, field notes were taken recording which participant was speaking. 2) Two recordings were made simultaneously; one of the general meetings and one directly recorded through the interpreter's microphone. Together, these recordings captured an English version of all meeting conversation. 3) These English recordings were professionally transcribed. 4) Field notes were then used to determine who said what and when; a final transcript was created. For the interviews, the interpreter's English translation was directly recorded through his microphone and professionally transcribed.

Analysis

Applied conversation analysis and discourse analysis were used to analyze transcripts. Applied conversation analysis is the study of talk-in-interaction, particularly in institutional settings (ten Have, 1999). Meetings are a type of institutional social space that may advantage participants who are used to the "procedural infrastructure" and disadvantage participants who are not familiar with institutional norms (Bernard, 2002; ten Have, 1999, p. 180). Thus, the following characteristics of talk-in-interaction were analyzed; conversation moves, speaker participation, turn-taking style, and facilitation.

Conversation moves (e.g. introduce, challenge, elaborate) were coded and used to track subject negotiation per speaker turn. Speaker participation was measured by summing the number of transcript lines per speaker and dividing by the total number of

lines in the transcript. Transcript lines of individual participants were then combined and averaged per constituency group. Core member constituencies were identified based on their roles as defined by the funding agency (ie. researcher, health care professional, or community leader). Community advisory board member constituencies were self-identified per their application forms with the exception of the at-large members who were identified by the researcher as government agency representatives. Turn taking style was measured by coding the way in which speakers spoke up in meetings: either independently or after being called upon to speak.

Facilitation strategies were also analyzed and included the level of structure in discussions, dropped subjects, subjects placed on hold, and subject revision. Dropped subject refers to a subject that has been introduced but is not acknowledged, developed, or responded to by a facilitator. A subject placed on hold occurs when a facilitator asks a participant to hold a thought for later discussion. Subject revision occurs when a facilitator revises subject matter while facilitating.

Discourse analysis is an interpretive approach used to recognize differences in how linguistic and other signifying resources, such as facilitation strategies, are used by speakers, and potential implications of those differences. Analysis focuses on the ways in which characteristics of language are used to communicate experiential and interpersonal meaning (Halliday, 2004). Gee's model of discourse analysis was used to analyze the data (Gee, 1999). This model assumes that meanings ascribed to language are socially situated and dynamic, verses universal and static. This perspective provided

a means to recognize various dynamic, and at times competing, discourses at work in defining and operationalizing EJ in the CBPR meeting setting. Gee's model allows analysis to extend beyond an individual's words to the influence of nested social environments on language production and use.

Results

Specific Aim 1: Describe Ways In Which Participants Negotiated the Meaning of EJ

A Taxonomy of EJ

EJ is a dynamic term whose meaning has shifted across time, government agency, and activist organization (Martinez, 2003). Because El Proyecto Bienestar is a federally funded EJ project, it is part of a national effort to work towards achieving EJ. But by whose definition? Kuehn's taxonomy of EJ, which includes distributive, procedural, social, and corrective justice, was used to organize the data (Kuehn, 2000). *Distributive justice* refers to a fair distribution of outcomes. In contrast, *procedural justice* refers to the "process for arriving at such outcomes" (p.10). *Social justice* requires that people "have enough resources and enough power to live as befits human beings" (p.10). *Corrective justice* broadly refers to fairness in the way punishments for breaking the law are administered and damages inflicted on people are addressed. While not mutually exclusive, these notions of justice provide a logical, albeit constrained, framework for capturing the breadth of dialogue in relation to how EJ was negotiated within the project. Excerpts from conversations related to defining EJ within the project, selecting new advisory board members, and creating an action plan to address occupational and

environmental health issues will be used to illustrate multiple dimensions of, and negotiation around, EJ. Outcomes of negotiation will briefly be addressed at the end of each section.

Negotiating Distributive Justice

Distribution of current and future project resources is dependent on how EJ is framed by participants. Conversation moves, highlighted in bold type, will be used to illustrate participant negotiation over EJ as a new paradigm to study environmental health, as action, and as solution-oriented research. Conversely, environmental injustice was discussed as a hypothesis to be tested. [Note: Italicized quotes represent text that has been translated from Spanish to English.]

In the first joint Core and advisory board discussion about EJ, EJ was **introduced** by a health care professional as a "different paradigm to look at environmental health." A Native American **elaborated** and introduced EJ as a framework used to examine how certain communities aren't "targeted" or "used in the way that less affluent communities are." The grower organization representative **challenged** her statement, stating "I think it [EJ] is useful as a way to identify problems that need to be addressed...It isn't always as crisp as targeting a population, it's usually just the guy who gets the short straw..."

In contrast to identifying problems, farmworkers stated that EJ is a response to problems identified. When asked, the warehouse worker representative **asserted**, *"The emphasis has to be on justice, EJ, because the research has already been done ... Let's get to work!"* The field worker **added**,

... We need to be conscientious of all that is happening to the environment because there is a lot of environmental contamination. It is obvious that they use a lot of pesticides, there are so many things that we can keep investigating in order to be able to look for a way, a formula, for how to prevent all of this.

The warehouse worker **elaborated**, stating "*...In this case we would be the voice of experience...because we are pickers, because we are doing the work, we are living the issues.*" Later in the conversation, a researcher **challenged** EJ as a response when he **summarized**, "So what this process is is prioritizing what the community perceives as risks or issues ... so that we can go further and actually validate or refute the scientific reality."

After six months of negotiation, EJ was defined as "equal protection and education of all communities regarding environmental and occupational hazards," to be achieved via "identifying and addressing the unequal distribution of environmental and occupational hazards and their adverse effects on human health" (El Proyecto Bienestar Core group, 2005). Problem identification and response were included in the definition. Questions regarding intentionality and an exclusive focus on hazard prevention (versus redistribution) were left out of the definition.

Negotiating Social Justice

To whom project resources are targeted is also dependent on how EJ is framed. The exclusive focus on minority and low income populations in federal EJ definitions was repeatedly challenged by the grower organization representative. He stated that

environmental injustice is, "not just minority and low income populations, it's any group." He then offered the following example:

> There are a whole lot of rich white people who got screwed by Hanford because you had a really big powerful government entity that had a huge power differential in all the information, and the people who lived around it didn't have any information or any power to do anything about it ....

He asserted that lack of information is the most salient dimension to be used in defining an EJ community.

Among other participants, meaning and relevance of the term "minority" was contested. The following section is an example of how conversation moves were used to track EJ discourse in the area of negotiating social justice. An adult educator started by **introducing** his view that the project's EJ definition should include "*all Hispanics*" because "*in reality the minority here aren't the Hispanics. The minority here are the white people ....*" To him, a minority community is defined locally, by quantifying the ratio of white to non-white people in a defined geographical area. Another participant **challenged** his focus on numbers and **introduced** a minority community as one that has been "...traditionally disadvantaged ... And in this country a minority constitutes a community of color or a poor community regardless of their numbers in that community." Dropping the reference to color, a government agency representative **introduced** an EJ community in terms of "*the people who suffer from social injustice ... to me it has to do with educational, social and economic factors, right?*" A CBO

representative **agreed but challenged** an exclusive focus on socioeconomics because, locally, some risks don't discriminate. *"It's true that socioeconomically we are talking about a minority, right? But if you know this environment, or have lived in this area, you can see that the effects of pesticides on human skin are in general."*

Participants agreed that "Communities of color and low income communities often bear an increased burden of hazardous environmental and occupational health exposures," and "Negative impacts on health are more likely among communities that are faced with a combination of harmful environmental exposures, and have the fewest resources available to address and understand the consequences of exposures" (El Proyecto Bienestar Core group, 2005). An exclusive focus on workers or people of color did not appear in the final EJ definition; rather participants agreed that "all communities" were to be equally protected and educated.

Notably, there were no field workers or pesticide applicators present at this meeting, two subpopulations of workers who are likely to be differentially exposed to pesticides when compared to the region's population. However, the warehouse worker made one comment throughout the discussion suggesting that EJ communities were those that *"don't have much influence, neither political or economic."*

Negotiating Procedural Justice

The best example of participants negotiating procedural (in)justice was during a discussion about the selection of new advisory board members. Again, conversation moves will be used to track discourse in this area. After identifying constituencies to be

represented on the advisory board, the core group selected from candidates that had submitted three page written applications. An advisory board member **challenged** this approach, stating, *"I think that the process doesn't help with the farmworkers to come because it's always a bear to fill the applications, comply with these norms ... "* Another advisory board member **introduced** a different selection process that was used by the advisory board to refill their membership, whereby filling out the application wasn't necessary because the applicants were not "competing to be selected since the moment that we handed them invitations they had already been selected." Further, the farm worker organization representative **challenged** the core group's application process and **compared** it with the personal knowledge that one can gain by knowing someone over time. He **stated**, *"I think an application isn't everything either, because we write things there that we think at the time that you're filling out the form, but in our lives ..."* He provided an example of how the man that invited him to apply knew his farm work experience. He **contrasted** what can be captured on a written application with what can be known experientially about a person.

A core member **characterized** this alternative approach as "based on one person's friendship with another person," failing to recognize that knowledge and experience with farm work, ability to make a commitment, and trust were discussed among the advisory board as membership criteria. In summary, core members assumed that their "professional" approach was "logical, effective, honest, normal, and

straightforward," while characterizing the advisory board process as "a ramshackle operation," "a breach of process and protocol," and "a power grab."

The core decided that future advisory board members needed to submit a modified application to both the core and the advisory board group after which a joint decision would be made. This changed a policy whereby the core group would select new members of the advisory board. Notably, "inequitable participation of communities in the decision making process" as a cause of environmental injustice was cut in revisions made by the core group to the EJ definition.

Negotiating corrective justice

Inequitable enforcement of laws protecting the health and safety of the workforce was introduced in an early version of the EJ definition as a cause of negative environmental and health hazards. Racial discrimination, in turn, was listed as a cause of inequitable enforcement. Because these comments were perceived as "inflammatory" by the core group, this version of the definition was replaced with one which made no mention of the role that inequitable enforcement, and therefore corrective justice, has in creating environmental injustice. The lack of negotiation around corrective justice will be discussed in the next section.

This section illustrated the breadth of EJ perspectives circulating in El Proyecto Bienestar. Participants introduced and negotiated multiple dimensions of EJ, including distributive, procedural, social and corrective justice, through meeting conversation. The immediate outcome was an EJ definition for the project. More importantly, however,

these discussions exposed diverse participants to different perspectives of what EJ is and how it can be achieved. The next section will further describe how procedural justice was operationalized within the organization, with corresponding implications for farmworker influence in the project.

Specific Aim 2: Operationalizing Procedural Justice Within El Proyecto Bienestar

The expectation that community members directly affected by occupational and environmental health hazards are influential in decisions which affect their health and safety is a key aspect of EJ and CBPR (Minkler & Wallerstein, 2003; Rechtschaffen & Gauna, 2002b). According to the goals of the grant, in theory, "through egalitarian dialogue, we can begin to identify and target concerns and problems that are identified by the community, rather than imposing views on their world that may not be consistent with the community's perspectives" (Keifer, 2003, p. 57). But what about in practice?

Multiple aspects of the project were analyzed to examine how procedural justice was, and was not, translated into practice. This section will quantitatively and qualitatively describe mechanisms used to legitimize or marginalize community influence in project activities.

Organizational Governance

Farmworker representation in the organizational structure. There are no farm workers in the core group, the primary decision-making body of the organization. They decide, for example, what decisions the community advisory board can make. Among the community advisory board seats, 18% are reserved for farm workers including one

dairy worker, one field worker, and one warehouse worker. Three advisory board seats, dairy worker, church representative and mother who works in agriculture, are vacant but could have been filled by farmworkers, signifying lost potential of farmworker participation. By year three of four, 41% of the advisory board seats were vacant (Table 3).

Speaker participation. Meeting attendance ranged from no farmworkers present to three present. In early joint project meetings, there was an average of 1.5 farmworker participants present. In sum, they spoke 3% of the time, less than any other constituency. In comparison, one government agency representative and one grower organization representative contributed 12% and 17%, respectively.

Midway through the project, 18% of the conversation was attributable to, on average, three farmworker participants. Government agency representatives (n=2.5) spoke 29% of the time. No grower organization representative was present.

In later meetings, one farm worker participant in attendance spoke 3% of the time in relation to other constituents. By comparison, government agency representatives (n=3) spoke 13% of the time and the grower organization representative spoke 7% of the time. These percentages do not account for speaker participation in small groups.

Decision-making authority. Core and community advisory board decision-making roles evolved over time. In early meetings the advisory board made recommendations to the core group regarding defining EJ, incorporating EJ into the ConneX curriculum, and reviewing content of the community health surveys. This

advisory role changed when members independently invited individuals to serve on the advisory board although the advisory board was not authorized to change the organizational structure. The action was met with resistance by the core group. After much discussion, selecting new advisory board members was identified as the first joint core *and* community advisory board decision.

Midway through the project, the core group authorized the advisory board to refine the list of occupational and environmental health issues and prioritize issues of importance. In later meetings, the advisory was asked to approve selected grant proposals for future funding. While creating a farmworker-driven research agenda remained in the hands of the advisory board (per authorization by the core group), governance, representation, evaluation and dissemination remained core functions.

Organizational Management

Meetings were the primary forum through which project activities were planned and implemented. In a meeting space, facilitators play a role in directing the flow of conversation. Strategies can help facilitate or impede participants' perspectives from being heard. In this section, two facilitation styles will be illustrated, with examples from "Facilitator A" and "Facilitator B." Both facilitators are members of the core group.

Discussion structure. Early joint project meetings were characterized by open discussions with little structure. Facilitator A did not clarify roles for the core group and advisory board participants, and there was confusion as to which participants (core or advisory board) should contribute what and when. Some of this confusion was alleviated

when midway through the project, an advisory board member suggested changing the agenda to include the roles of the advisory board and the core group alongside each agenda item items (e.g. core presentation versus advisory board discussion). During later project meetings, facilitator B gave an overview of decisions to be made, clarified roles, and encouraged questions to be asked about the process. In addition, facilitator B mixed up large group discussion with small group break-out sessions. Participants who typically did not speak up in meetings appeared to be engaged in conversation when in small groups. In addition, the need for small group recorders and large group reporters created opportunities for different kinds of participation, allowing participants' unique strengths to be applied in the CBPR meeting setting.

Language. In early joint project meetings, monolingual Spanish speakers (n=3) wore a headset and received simultaneous translation. Bilingual speakers spoke English (n=11). By the third joint meeting, the project adopted an informal policy stating that anyone who speaks Spanish should speak Spanish. All monolingual speakers wore headsets to receive simultaneous translation.

Turn taking style. Turn taking style, or the way in which speakers take turns speaking up, varied among participants and across time. In early project meetings, all participants except farm workers spoke up independently the majority of time. Farmworkers were more likely to speak when called upon, a move most frequently made by Facilitator B. After making the decision to have Spanish be the preferred language in meetings, farmworkers were more likely to speak up independently, per data analyzed

one month later. Analyses from meetings midway in the project and at a third time point showed that all participants spoke up independently all the time.

Dropped subjects. Dropping subjects means that a subject that has been introduced is not acknowledged, developed, or responded to by other participants, notably the facilitator. For example, soon after top occupational and environmental health issues had been selected as focal areas, a community leader suggested that the project "… have a meeting, maybe a forum where we invite those directors [of Labor and Industries & Employment Security], we give them our report and say, '… start enforcing your agricultural standards.' It's as simple as that." The subject of enforcement as corrective justice was dropped in that no discussion or action resulted from his comments and the conversation moved on.

A related mechanism that has the effect of marginalizing discourse via silencing speakers is placing subjects on hold and eventually dropping the subject altogether. In this example, a participant re-introduced the term "disparities" as a means to describe an EJ population. Facilitator A responded, "Could you hold that idea? Hold that thought? Let's try and resolve this one first." The facilitator never went back to it, dropping the idea altogether. In contrast, during a strategic planning session, facilitator B suggested that an idea be set aside for the time being, but used a visual cue to keep herself accountable to the idea.

Subject revision. Subject revision is best illustrated with the following example. In a discussion defining EJ, participants used action verbs to signify the concept such as

protecting, informing, educating, enforcing, and outreaching. Facilitator A revised the subject matter when he summarized the discussion. "I am hearing two things that we are talking about, the idea of introducing a concept of education or empowerment..." Later he states, "OK, so we are basically talking about empowerment through education...." When the facilitator summarized the conversation, he limited the options (again, ignoring enforcement) and nominalized the verbs. Nominalization transforms verbs into nouns, obscuring process and highlighting outcome.

In contrast, Facilitator B avoided subject revision by either repeating what she heard the person say or asking questions of the individual or the group such as, "So are you suggesting ...?" or "What do folks think about that?" These types of questions kept subject matter intact as the conversation progressed.

Discussion

The purpose of this study was to examine how participants from diverse backgrounds articulate and work towards EJ in the context of a CBPR project. In this section, procedural, distributive, and social justice will be discussed in terms of which EJ dimensions were advanced in this project. Implications for the construction of science and EJ will then be discussed.

Procedural justice

While corrective justice was dropped as a strategy to advance EJ, procedural justice was negotiated with the advisory board securing authority in decisions related to research. Their lack of authority to self-govern, however, compromised their role

representing the agricultural community, which they have defined as broader than is currently represented on the board. For example, members hoped to include a pesticide handler and a hops, grapes, or asparagus worker. The core group interpreted the advisory board's attempts to self govern as "a power grab" instead of an attempt to take ownership of their role as representatives of a diverse agricultural community.

The importance of self-representation is illustrated by this quote from a core member who stated, "…we are being paid to … learn how to be an effective organization that represents the interests of the population we are supposed to be representing." Yet during this "learning process" the core rejected the advisory board's approach to self-representation, criticizing the way they choose to replace their membership. This representational divide was further illustrated by participants discussing to whom they were accountable. While core members called upon their accountability to the federal funding agency, advisory board members called upon their accountability to farm workers, a world in which, *"urbanites could not survive in and have not survived in."* Adopting a governance model where farm workers are self-represented would alleviate the placation experienced by farmworkers exclusively serving an advisory role (Arnstein, 1969).

Within the current governance model, the core group positioned farmworkers as participants, but not as equal partners. Through this move they upheld the federal interpretation of procedural justice, meaningful involvement, and denied farmworkers equal partnership, a fundamental organizing principle adopted at the First National

People of Color Environmental Leadership Summit (Rechtschaffen & Gauna, 2002b).
Unsuccessful attempts to create procedural equity in El Proyecto Bienestar meetings have
maintained marginalized farmworker roles, making it difficult to assess the lost potential
of a farmworker-driven CBPR project.

Meeting management strategies that demonstrate a commitment to procedural
equity by being "content neutral" and a "process advocate" were differentially used by
project facilitators (Kaner, 1996, p. x). Remaining content neutral is an essential skill in
cross-cultural communication. Dropping and revising subjects silences certain
perspectives and perpetuates others. Process advocacy, such as mixing large and small
group activities, directly asking participants their opinions, and clarifying participant
roles, was shown to engage farmworkers. Sharing the burden of translation increased
farm worker speaker participation and unarguably shows respect to the farm worker
community.

Distributive justice

It is an assumption on the part of researchers that involvement of community
members in the research process is equivalent to social action (N. B. Wallerstein &
Duran, 2006). For example, in discussing the future possibility of creating two
organizational bodies with one focused on advocacy and one on research, a researcher
stated, "It seems to me that one of the reasons ... that this is a bit of a unique experience
that we've gone through is that we have married the interest of those who are advocates

with those who are scientists." A community leader challenged the notion that advocacy and research have been united in the project. He stated,

> I look forward, really, to the coalition continuing ... But what we need to show is some action, farm workers are looking for some direction that they can use ... to address the concerns that they express at these forums that we have.

While participation of the affected community in the research process was advanced in the project, social action in response to the needs articulated by farm workers was not. Integrating research with action is a primary goal of CBPR (Minkler & Wallerstein, 2003).

Integrating knowledge generation with social action does not have to be a linear process. Building partnership capacity and sharing what is known about occupational and environmental health can occur before specific issues are identified for targeted interventions. Board, facilitator, and grant writing trainings could have increased community participants' exposure and access to institutional norms as well as make it possible for individuals to transform those norms. Likewise, academic partners could examine their own knowledge and assumptions about the ways in which *they* work and how that does or does not support the needs of community participants. Anti-racism workshops offered through The People's Institute are committed to teaching diverse participants how to identify their roles as "gatekeepers for information, resources, and knowledge" so that coalitions can effectively organize for social change (The People's

Institute, 2006). If taken up, these recommendations provide transferable skill sets that strengthen partnership capacity through reciprocal learning.

In conversation, EJ was defined using action verbs such as "protecting," and "educating," but these activities were not supported during this funding cycle. General occupational and environmental health information could have been offered through health fairs and/or radio shows concurrent to research activities. This would have facilitated multiple community members' vision of EJ as a response to a lack of understandable occupational and environmental health information in the community.

Finally, the project's EJ definition reinforced the acceptability of an equitable distribution of risk, a federal interpretation of distributive justice. Instead of advocating for an equal amount of environmental contamination, grassroots EJ principles demand the cessation of the production of toxins (Rechtschaffen & Gauna, 2002b). Neither position was linked to practice thus far in the project.

Social justice

As discussed, project resources were primarily spent creating a farmworker-driven research agenda. The issue identification stage targeted farm workers, local residents, and outside experts in defining important occupational and environmental issues. The issue prioritization stage targeted farmworkers and their families, the majority of whom were people of color and, presumably, low-income. Currently, the project is engaged in a planning process with the advisory board to determine future activities. While it is too soon to tell who will be the focus of future project activities,

some participants have adopted a color-blind and class-neutral approach in response to environmental injustice, ignoring both grassroots and federal interpretations of EJ. This approach marginalizes farmworker claims of unique impact and obscures the role of race and class in creating environmental injustice in the first place. An understanding of farmworkers' explanatory models related to their disparate impact is necessary to co-create efficacious interventions that will contribute to a more environmentally just world (Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999).

Conclusion

Methods to evaluate the influence of farmworker participants in the co-production of knowledge within CBPR projects have not been adequately studied. This paper examined how diverse participants in one CBPR project introduced and negotiated multiple dimensions of EJ within the context of project meetings. Procedural justice was highlighted as an area of contestation. Overall, the project adopted and maintained federal interpretations of distributive and procedural justice by focusing efforts on data collection and involving farmworkers as advisors to a research process. Recommendations include revisiting grassroots EJ principles by increasing the presence and influence of farmworkers' perspectives on project processes so that locally-relevant and farmworker-driven interventions to achieve EJ are created and implemented.

Table 2a. Community constituencies represented on the community advisory board of El

Proyecto Bienestar

	Community Constituency	Ethnicity	Gender
1.	Warehouse Worker	Mexican-American	F
2.	Field Worker	Mexican-American	M
3.	Dairy Worker	n/a	n/a
4.	Farmworker Organization	Mexican-American	M
5.	Community-based Organization	Nicaraguan-American	F
6.	Native American	Native American	F
7.	At-large, USDA	Mexican-American	F
8.	At-large, USDA	Mexican-American	M
9.	At-large, L&I	Puerto-Rican Amer.	M
10.	Grower Organization	European-American	M
11.	Individual Grower	n/a	n/a
12.	Health Professional	European-American	F
13.	Researcher	Native American	F
14.	Adult Educator	Mexican-American	M
15.	Student	Mexican-American	F
16.	Church	n/a	n/a
17.	Mother Working in Agriculture	n/a	n/a

Key:
USDA United States Department of Agriculture
L & I Department of Labor and Industries

will drive an ...

which will include a ...

Core Interviews

CAB Interviews

ConneX Surveys

Issue Prioritization

Issues-Driven Action Plan

Community-generated grant proposal

and may also include...
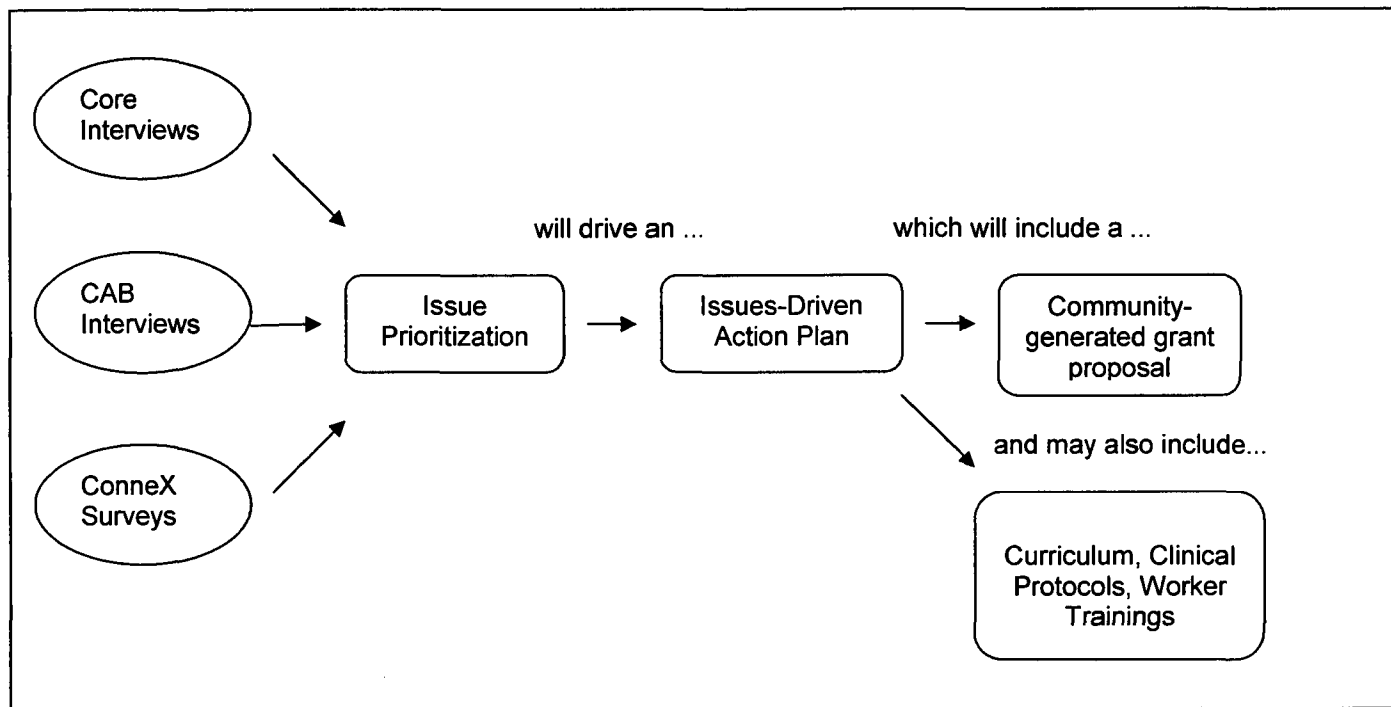
Curriculum, Clinical Protocols, Worker Trainings

Figure 2. El Proyecto Bienestar's research process

CAB = Community Advisory Board
ConneX = Connecting students to health career

72

Table 3. Lost potential of community participation

REPRESENTATIVE	Dec-06	Jan-05	Mar-05	Apr-05	Jul-05	Oct-05	Jan-06	Jan-06	Mar-06	Mar-06	Apr-06	May-06	Oct-06	Nov-06
Warehouse worker														
Field worker														
FW organization														
CBO														
Native American														
At-large, USDA, woman														
At-large, USDA, man														
At-large, L&I														
Grower organization														
Health professional														
Researcher														
Adult educator														
Student														
Individual grower														
Church														
Dairy worker														
Mom working in Ag														

■	present														
▒	absent														

FW = Farmworker
CBO = Community-based organization
USDA = United States Department of Agriculture
L&I = Labor and Industries
Ag = agriculture

73

Notes to Chapter

Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of American Instructional Planners 35*, 216-224.

Bernard, H. R. (2002). *Research Methods in Anthropology*. New York: Alta Mira Press.

Cable, S., Mix, T., & Hastings, D. (2005). Mission impossible? Environmental justice activists' collaborations with professional environmentalists and with academics. In D. N. Pellow & R. J. Brulle (Eds.), *Power, justice, and the environment: A critical appraisal of the environmental justice movement*. Cambridge: The MIT Press.

Crotty, M. (1998). *The Foundations of Social Research*. London: Sage Publications.

Crowe, J., & Keifer, M. (2006). CBPR: Achieving community participation in research to improve farmworker health. *Journal of Agricultural Safety and Health*.

Delbecq, A., Van de Ven, A., & Gustafson, D. (1986). *Group Techniques for Program Planning: A Guide to Nominal Group Process and Delphi Processes*. Middleton: Green Briar Press.

Department of Health and Human Services. (2007). Community Participation in Research. Retrieved 1/12, 2007, from http://grants.nih.gov/grants/guide/pa-files/PAR-05-026.html

El Proyecto Bienestar Core group. (2005). *Environmental justice definition*. Yakima: El Proyecto Bienestar.

Environmental Protection Agency. (2003). *Towards an environmental justice collaborative model: An evaluation of the use of partnerships to address environmental justice issues in communities* (No. EPA/100-R-03-001): Environmental Protection Agency: Office of Policy, Economics, and Innovation.

Gee, J. G. (1999). *An Introduction to Discourse Analysis: Theory and Method*. London: Routledge.

Halliday, M. A. K. (2004). *An Introduction to Functional Grammar*. London: Arnold.

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annu Rev Public Health, 19*, 173-202.

Kaner, S. (1996). *Facilitator's Guide to Participatory Decision-Making*. Gabriola Island: New Society Publishers.

Keifer, M., Salazar, M., Snyder, K. (2003). Community Health Intervention with Yakima Agricultural Workers: University of Washington.

Kuehn, R. (2000). A taxonomy of environmental justice. *Environmental Law Reporter, 30*(10,681).

Martinez, S. (2003). *Environmental justice: A complex and emotional issue*. Yakima: El Proyecto Bienestar.

Minkler, M., & Wallerstein, N. (2003). Introduction to community-based research. In M. Minkler & N. Wallerstein (Eds.), *Community-based Participatory Research for Health* (pp. 3-26). San Francisco: Jossey-Bass.

National Institute of Environmental Health Sciences. (2006, April 12). Environmental Justice: Partnerships for Communication. Retrieved 12/26, 2006, from http://www.niehs.nih.gov/translat/envjust/envjust.htm

Parker, E. A., Israel, B. A., Williams, M., Brakefield-Caldwell, W., Lewis, T. C., Robins, T., et al. (2003). Community action against asthma: examining the partnership process of a community-based participatory research project. *J Gen Intern Med, 18*(7), 558-567.

Pulido, L., & Peña, D. (1998). Environmentalism and positionality: The early pesticide campaign of the United Farm Workers' Organizing Committee, 1965-71. *Race, Gender & Class, 6*(1), 33-50.

Rechtschaffen, C., & Gauna, E. (2002). *Environmental Justice: Law, Policy, and Regulation*. Durham: Carolina Academic Press.

Resnicow, K., Baranowski, T., Ahluwalia, J. S., & Braithwaite, R. L. (1999). Cultural sensitivity in public health: defined and demystified. *Ethn Dis, 9*(1), 10-21.

Salazar, M. (2005). *Environmental Justice: Partnerships for Communication, Community-based Intervention with Yakima Valley Agricultural Workers, Evaluation: Half Year Report*. Seattle: University of Washington.

Salazar, M. K. (2004). *Environmental Justice: Partnerships for Communication Year End Evaluation Report*. Seattle, WA: University of Washington.

Shepard, P., Northridge, M., Prakash, S., Stover, G. (2002). Advancing environmental justice through community-based participatory research. *Environ Health Perspect Supplements, 110*(2), 139-140.

ten Have, P. (1999). *Doing Conversation Analysis*. London: Sage Publications.

The People's Institute. (2006). The People's Institute for Survival and Beyond. Retrieved 12/07/06, 2006, from http://www.pisab.org/

U.S. Department of Health and Human Services. (2004). Healthy People 2010. Retrieved 7/15, 2004, from http://www.healthypeople.gov/About/goals.htm

Wallerstein, N. B., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Health Promot Pract, 7*(3), 312-323.

CHAPTER 4

Negotiating "Empowerment" in El Proyecto Bienestar (The Well-Being Project)

"In spite of the good intentions of those who seek to empower others, the relations of empowerment are themselves relations of power" (Pease, 2002, pp. 137-138).

Farm workers are employed in one of the most dangerous industries in the United States and face social, economic, and legal barriers to securing safe workplaces (National Safety Council, 2000). Prior to the recent advent of community-based participatory research (CBPR), farmworkers were infrequently involved in framing occupational and environmental health research, and even less frequently involved in policy-making. In contrast to traditional research methods, researchers adopting CBPR strategies work to balance power among academic and community partners by developing knowledge collaboratively with the community and integrating this knowledge with social action (Israel, Schulz, Parker, & Becker, 1998). Empowerment is often a goal, yet meanings of empowerment vary within and across disciplines and cultures.

For example, in a review of articles in the social work literature that discussed empowerment, Gutierrez, Parsons, and Cox (1998) found that most articles focused on micro- (individual) levels of empowerment (Gutierrez, Parsons, & Cox, 1998). Pease (2002) discussed the inherent tension in focusing on individualistic notions of empowerment alongside empowerment discourses that are concerned with changing oppressive social structures at the macro-level. He cites Langan who writes that

empowerment "implies an individualistic conception of power which by reducing social relations to the interpersonal level obscures the real power relations in society" (as cited in Pease, 2002, p. 136).

In the public health literature, Robertson and Minkler challenge this macro/micro dichotomy and instead suggest that each sphere "informs, produces, and reproduces each other, mediated by the mid-level sphere of social organizations" (Robertson & Minkler, 1994, p. 298). These theorists conceptualize a multidimensional construct of empowerment that includes attending to individual, small group, organizational, and community levels of empowerment (Israel, Checkoway, Schulz, & Zimmerman, 1994; Labonte, 1994; Robertson & Minkler, 1994). They contend that mid-level social organizations, such as churches, schools, and neighborhood organizations serve as mediators between individuals and oppressive social structures. This early conceptual work around the concept of empowerment, which relied on conceptions of power as "power-with" (Labonte, 1994) instead of "power-over," fostered the creation of another type of social organization, CBPR projects.

Empowerment discourses have implications beyond the academic sphere, and include cultural and regional variation in how meaning is ascribed to the term. For example, translating empowerment from English to Spanish is problematic in that in Latin American countries the term "power" connotes power-over versus power from within. Thus, the very use of the term invokes a conceptualization of power that health promotion theorists have rejected. Furthermore, "empowerment" represents group versus

individual effort because of a collectivist cultural norm, which has implications for measuring changes in empowerment as theorized in the health promotion literature (Erzinger, 1994). These differences also have implications for communicating empowerment goals cross-culturally and within CBPR projects. Successful academic-community partnerships rely on cross-cultural communication.

Formal partnerships between scientists and farmworkers are relatively new in occupational and environmental health research, therefore new evaluation approaches are needed to analyze the extent to which farmworkers' perspectives contribute to the research agenda and related activities. Process evaluation asks questions about the partnership process, such as "How do researchers and community participants work together, make decisions, and negotiate? What are the benefits and challenges of doing this type of research for all parties involved?" (Parker et al., 2003, p. 558).

Process evaluations in CBPR have found that although communication is paramount to successful collaboration between farmworker and academic communities, miscommunication is common (Meade & Calvo, 2001; S. A. Quandt et al., 2004). For example, McCauley et al reported that in year three of a four year CBPR study with a farm working community, 50% of researchers and 58% of community advisors believed there had been "communication problems." Subsequently, all of the researchers, but only half of the community advisors, believed the problems had been resolved (L. A. McCauley, Beltran, Phillips, Lasarev, & Sticker, 2001). Instances of conflict resolution were also examined, including issues around language (e.g. use of "poison" versus

"pesticide") and the implementation of precautionary practices used to protect workers (e.g. restricting pregnant women from agricultural work) from pesticide exposure.

A clearer understanding of the ways in which "empowerment" is discussed and strategies negotiated among diverse project participants is necessary to evaluate farmworker influence in project planning and implementation.

Objectives

This paper reports results from an innovative approach to process evaluation which takes into account the social position of participants and the context in which text is produced. Specifically, the study examined how diverse participants in one agricultural community negotiate "empowerment" on-the-ground in CBPR meetings. First, this paper will describe the process used to create a farmworker-driven occupational and environmental health research agenda. Next, negotiation around what "empowerment" means to participants in terms of planning project activities will be described. Finally, implications for academic and community coalitions working to improve farmworker health will be presented.

Creating a Farmworker-Driven Research Agenda

El Proyecto Bienestar is a four year, federally funded project whose primary goal is to identify and respond to occupational and environmental health risks faced by Hispanic farm workers in a central Washington agricultural community. Core partners include researchers, health care professionals, and community leaders from four institutions; a research university, a liberal arts university, a community/migrant health

center, and a non-profit, Spanish language radio station. In addition, a community

advisory board represents members of the agricultural community, including

representatives from a farmworker organization, grower organization, and government

agency representatives. For a complete list of constituencies represented, see Table 2b.

Multiple methods were used to identify occupational and environmental risks

relevant to the community, including key informant interviews and community health

surveys. Those identified risks were presented at a town hall meeting (THM) which was

held with farmworking families who subsequently identified more issues via an open

microphone session. Issue prioritization occurred in three steps. First, all identified

issues were categorized into exposures, outcomes, and contextual factors. Next, THM

attendees voted and ranked the issues via a written ballot. The community advisory

board, citing the importance of respecting the opinions of farmworkers at the THM,

adopted the four top issues ranked by the THM attendees; pesticides and chemicals,

work-related injuries, work-related illnesses, and abusive workplace conditions.

Next, through a series of group exercises facilitated in joint Core and community

advisory board meetings, project participants created a vision for future activities planned

in response to the top issues. First, they responded to the question, "What will the future

of farmworker families and the farmworker community look like if the project does its

job exceedingly well?" Participants listed and thematically organized a variety of goals.

"Safe jobs, healthy environment, empowered community" was negotiated as the vision

statement for the project. While participants agreed that an "empowered community" was a primary goal for the project, they spoke differently about ways to realize that goal.

Conceptual Framework

To examine the contribution of farmworker perspectives of empowerment, this study examined power from a Foucauldian perspective. Foucault asserts that language is a process through which power operates. Unlike traditional concepts of power, whereby power is top-down and based on material wealth or brute force, Foucault conceptualized power as that of a "productive network which runs through the whole social body" (Foucault, 1972, p. 119). This relational concept of power guides analyses of how power operates socially, through meaning ascribed to language and behavior. When social groups and institutions communicate, such as in CBPR, they create meaning and construct reality via their discourse (Israel et al., 2001).

Discourses, in turn, are "... the 'games of truth' created by the interaction of knowledge and power whenever social groups and institutions use language and other means of communication to create meaning ..." and structure activities (as cited in Peña, 2005, p. 193). For example, in a presentation to El Proyecto Bienestar's community advisory board, a university student used the phrase "illegal immigrant." This was immediately contested by a community participant who said that these immigrants were not *illegal*, rather they were *undocumented*. These terms position immigrants in different ways with different paths to citizenship and rights to work. Through this exchange the community member challenged the student's notion of "truth" regarding immigrant

identity and offered alternative language, identifying implications for local workers' rights. The community member recognized the potential political influence the student's characterization of immigrants. Part of an analysis of relational power, then, is to examine ways in which project participants used 'empowerment' discourses to legitimize or marginalize certain project activities.

Research Design and Methods

The descriptive, process-evaluation described in this paper is one component of the overall program evaluation, and compliments an earlier study that evaluated how distributive, procedural, social and corrective justice dimensions of environmental justice were negotiated within the project. Farmworker participation in organizational governance and management was also examined to explore their potential influence on project activities. For a more in-depth discussion on those results and the methods used in this study, see (Postma, 2007).

Potential study participants were members of either the core group or community advisory board of El Proyecto Bienestar. Participant observation was used to listen to how project participants spoke about empowerment in project meetings. Field notes were taken at all meetings. Meetings were open to the public and audiorecorded with permission of the participants. Because meetings were public, approval by an institutional review board was not necessary. Portions of audiorecordings were professionally transcribed to capture differences in "empowerment" discussion. Discourse analysis was used to identify differences in the way socially diverse

participants ascribed meaning to the term "empowerment," and implications of those differences in practice (Gee, 1999).

Results

While participants agreed that "empowerment" was central to the project, they had different perspectives on what the term meant and the role that the project should play in "empowering the farm working community." (Note: Italics represent text that has been translated from Spanish to English).

To begin, empowerment was described by a farm worker organization representative as a community that is

> ... *informed of its rights ... is capable of creating new laws, is capable of defending itself, because the "Well-Being Project" is acting and teaching how this can be done. And in this manner, the people have control, control of the project. It* [the community] *is part of the project. ... With the "Well Being Project" everyone has a voice. It is an example for other areas, like a model ... And* [it can be useful] *later, when it becomes time for people to gather for politics and to create new laws for the benefit of everyone... "*

Suggested activities to create this vision included educating farmworkers on their rights and training workers to advocate for legislation. This empowerment discourse positions the project as an instrument used to strengthen farmworkers' political voice(s) with the potential to a) challenge the conditions that produce injustice in the workplace, and b) create new models of safe workplaces. This empowerment discourse supports an

autonomy-based notion of environmental justice, in that the community directly affected by environmental injustice(s) develop the capacity to collectively challenge the status quo (Postma, 2006).

Others felt that the project should represent the interests of both employers and workers. When a government agency representative stated that "… we have to make sure that we are neutral, and work in the best interest of the whole community," a health care professional immediately replied, "and that is the basis of the project." Future activities to support neutrality included improving personal protective equipment and training middle management in working with human resources.

A community leader challenged this proposed neutrality, stating,

The employer community has so many associations representing them …they have advocates, … the farmworker, unfortunately, [for] the agricultural worker, that's what's missing." He suggested allocating future resources for a "place, a center, that they [farmworkers] can go to with their grievances and complaints and look for some quicker answers to what they're experiencing…."

This empowerment discourse positions the project slightly differently, as an instrument to advocate on behalf of farmworkers. This discourse has the potential to contribute to social and distributive justice through two mechanisms. First, an increase in workers' compensation claims could increase the flow of worker's compensation benefits into the farmworking community. Second, an increase in the number of completed claims would improve tracking occupational injury and illness. This could indirectly leverage more

money into the community. Corrective justice may also be promoted via this empowerment discourse in that worker's compensation claims could prompt workplace inspections which may lead to enforcement activities. This empowerment discourse has less potential to lead to activities that would directly challenge the conditions that produce occupational health risks at the point of production.

The grower organization representative momentarily aligned with the community leader regarding the role of El Proyecto in advocating on behalf of farmworkers. He stated,

> This committee [El Proyecto Bienestar] has workers, industry, government, medical, so on, and supposedly we ... have generated information that hasn't been generated before about what the community thinks, the farm worker community thinks. And it's our responsibility to communicate that to decision makers in our community. And have that acted on.

He suggested the project perform an ongoing needs assessment of the workforce, to be reviewed by an impartial panel, to facilitate collaboration between employers, agencies, and employees. This third empowerment discourse also positions the project to act on behalf of farmworkers, but as a gatekeeper between farmworkers and decision makers. Although this empowerment discourse may serve to enhance distributive justice (via bringing resources into the community), it maintains procedural *in*justice by supporting institutional norms whereby farmworkers aren't, in the words of the grower group representative, "heard" or "taken seriously."

Only the farmworker organization representative suggested the project focus on activities to strengthen the political voice of farmworkers, to "propose things that we want for our community" via education and leadership training. In contrast, the grower organization representative proposed the project serve as a mediator between workers and employers via an ongoing needs assessment, whereas the community leader proposed that the project serve a direct advocacy role; acting on workers' behalves navigating health and safety grievances.

Negotiation over these differences is best illustrated through the following example. When "Empowerment and safer jobs means a healthier community" was recommended as a vision statement, the grower organization representative replied,

> I think this is a problem - if you just have empowerment and worker issues, you create this red flag. ... If some of my more conservative members look at that, they're going to think unionization right away. That is not what we're about here ....

A community leader agreed, and suggested leaving empowerment out of the vision statement. He stated, "... if you really empower the farm worker, the employer would have headaches. And if the employer has headaches, you know, we go back to the - where I came from, the 60s." A health care professional and researcher challenged leaving empowerment out of the vision statement, arguing, respectively, that "empowerment is central to what this group is about," and "It's the very nature of community-based participatory research." In particular, a researcher suggested that the

project has already empowered farmworkers, noting "…some of the concept of empowerment is - includes control of research, includes control of the research agenda."

Participants agreed to include "empowered community" as a primary outcome in the vision statement, but expanded the project's goals beyond workplace issues to include the environment, even though three out of four top issues are explicitly work related (work-related injuries, work-related illness, abusive workplace conditions) and the other differentially affects workers (pesticides and chemicals). Thus, the vision statement became "Safe jobs, healthy environment, empowered community." In regards to what an empowered community is, a community leader stated, "You know, it's needless to say empowerment … unless one really understands, you know, and accepts what empowerment means …." A health care professional replied, "And we're not defining it here, we're taking our own preconceptions about what it might mean."

Discussion

Although a farmworker-driven research agenda was created in the project, the project fell behind in its goals to respond to the occupational and environmental health needs of the farmworker community. Clinical protocols, curriculum development, and worker training programs addressing issues of control in the workplace were identified in the original grant proposal as potential outcomes, however, activities towards these ends did not occur.

This analysis provides evidence that participants had multiple, and at times, competing goals for the project, all loosely bound by the term "empowerment." While

there is room for all of these empowerment discourses within the multilevel construct of

empowerment proposed by Israel et al (1994), the model assumes that the mid-level

organization mediating the micro-and macro-levels of empowerment be located

(primarily) in the civil sphere. The power in this approach lies in the assumption that

everyday practices of individuals shape larger structural forces at the same time that

larger structural forces (economic, political, cultural, organizational) shape the everyday

lives of individuals. The authors conclude that "This position tempers the notion of

sociological determinism with the notion of human agency" (Robertson & Minkler, 1994,

p. 297). This assumption does not hold true, however, in the case of El Proyecto

Bienestar, which has adopted federal notions of EJ to guide the project and is both

governed and managed by institutionally-embedded members (Postma, 2007).

Recommendations that would "empower" farmworkers to change an unjust

system were met with resistance because empowerment would cause "headaches" to

growers and, if realized, compromise the project's "neutrality" in the agricultural

community. While some participants stressed that activities should represent employers

and farmworkers, a community leader disagreed, stating, "... that's not at all what the

project is about ... that's not what environmental justice is."

Future work is needed to define and operationalize "empowerment" among

participants. What does it mean to have "community empowerment" as a goal without

determining mutually agreeable language? Findings suggest that participants have

different views as to how community empowerment can be actualized, with some

suggesting that it can occur via advocacy on *behalf of* farmworkers and others via increasing the political power of farmworkers to advocate on behalf of themselves. The latter approach was viewed by some as too threatening to the neutrality of the project to endorse. Future activities will differ depending on which version is embraced by participants.

<div align="center">Conclusion</div>

Theoretically, CBPR approaches, and the theoretical frameworks that support them, balance power among diverse participants through a co-production of knowledge. These preliminary findings suggest that in a coalitional approach to CBPR, multiple perspectives will surface. Discourse analysis, as applied to process evaluation, creates "spaces for competing community discourses to emerge" by bridging individual narratives with the sociocultural assumptions those narratives carry (Allen & Hardin, 2001; Hardin, 2001; Israel et al., 2001; N. Wallerstein & Duran, 2003, p. 40). Adopting theories of relational power and highlighting the power inherent in language to create and legitimize meaning provide the philosophical grounding needed to examine the co-production of knowledge in the CBPR setting.

Table 2b. Community constituencies represented on the community advisory board of El

Proyecto Bienestar

	Community Constituency	Ethnicity	Gender
18.	Warehouse Worker	Mexican-American	F
19.	Field Worker	Mexican-American	M
20.	Dairy Worker	n/a	n/a
21.	Farmworker Organization	Mexican-American	M
22.	Community-based Organization	Nicaraguan-American	F
23.	Native American	Native American	F
24.	At-large, USDA	Mexican-American	F
25.	At-large, USDA	Mexican-American	M
26.	At-large, L&I	Puerto-Rican Amer.	M
27.	Grower Organization	European-American	M
28.	Individual Grower	n/a	n/a
29.	Health Professional	European-American	F
30.	Researcher	Native American	F
31.	Adult Educator	Mexican-American	M
32.	Student	Mexican-American	F
33.	Church	n/a	n/a
34.	Mother Working in Agriculture	n/a	n/a

Key:
USDA United States Department of Agriculture
L & I Department of Labor and Industries

Notes to Chapter

Allen, D., & Hardin, P. K. (2001). Discourse analysis and the epidemiology of meaning. *Nursing Philosophy, 2*, 163-176.

Erzinger, S. (1994). Empowerment in Spanish: Words can get in the way. *Health Education Quarterly, 21*, 417-419.

Foucault, M. (1972). *Power/Knowledge: Selected interviews and other writings 1972-1977*. New York: Pantheon Books.

Gee, J. G. (1999). *An Introduction to Discourse Analysis: Theory and Method*. London: Routledge.

Gutierrez, L., Parsons, R., & Cox, E. (1998). *Empowerment in Social Work Practice: A Sourcebook*. Pacific Grove, CA: Brooks/Cole.

Hardin, P. K. (2001). Theory and language: locating agency between free will and discursive marionettes. *Nurs Inq, 8*(1), 11-18.

Israel, B. A., Checkoway, B., Schulz, A., & Zimmerman, M. (1994). Health education and community empowerment: conceptualizing and measuring perceptions of individual, organizational, and community control. *Health Educ Q, 21*(2), 149-170.

Israel, B. A., Lichtenstein, R., Lantz, P., McGranaghan, R., Allen, A., Guzman, J. R., et al. (2001). The Detroit Community-Academic Urban Research Center: development, implementation, and evaluation. *J Public Health Manag Pract, 7*(5), 1-19.

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annu Rev Public Health, 19*, 173-202.

Labonte, R. (1994). Health promotion and empowerment: Reflections on professional practice *Health Education Quarterly, 21*(2), 253-268.

McCauley, L. A., Beltran, M., Phillips, J., Lasarev, M., & Sticker, D. (2001). The Oregon migrant farmworker community: an evolving model for participatory research. *Environ Health Perspect, 109 Suppl 3*, 449-455.

Meade, C. D., & Calvo, A. (2001). Developing community-academic partnerships to enhance breast health among rural and Hispanic migrant and seasonal farmworker women. *Oncol Nurs Forum, 28*(10), 1577-1584.

National Safety Council. (2000). *Injury Facts*. Itaska: National Safety Council.

Parker, E. A., Israel, B. A., Williams, M., Brakefield-Caldwell, W., Lewis, T. C., Robins, T., et al. (2003). Community action against asthma: examining the partnership process of a community-based participatory research project. *J Gen Intern Med, 18*(7), 558-567.

Pease, B. (2002). Rethinking empowerment: A postmodern reappraisal for emancipatory practice. *British Journal of Social Work 32*, 135-147.

Peña, D. (2005). *Mexican Americans and the Environment: Tierra y Vida*. Tucson: The University of Arizona Press.

Postma, J. (2006). Environmental justice: Implications for occupational health nurses. *AAOHN Journal, 54*(11), 489-496; quiz 497-488.

Postma, J. (2007). Negotiating Environmental Justice in El Proyecto Bienestar (The Well Being Project) University of Washington.

Quandt, S. A., Doran, A. M., Rao, P., Hoppin, J. A., Snively, B. M., & Arcury, T. A. (2004). Reporting pesticide assessment results to farmworker families: development, implementation, and evaluation of a risk communication strategy. *Environ Health Perspect, 112*(5), 636-642.

Robertson, A., & Minkler, M. (1994). New health promotion movement: A critical examination. *Health Education Quarterly, 21*(3), 295-312.

Wallerstein, N., & Duran, B. (2003). The Conceptual, Historical, and Practice Roots of Community-based Participatory Research and Related Participatory Traditions. In M. Minkler & N. Wallerstein (Eds.), *Community-based Participatory Research for Health* (pp. 27-52). San Francisco: Jossey-Bass.

CHAPTER 5

Conclusion

The research presented here represents a new approach to evaluating how knowledge is or is not legitimated among socioculturally diverse participants in a CBPR setting. In this conclusion, I summarize key points, discuss recommendations for future CBPR work, and address strengths and limitations of the study. Finally, I apply methodological and interpretive validity criteria to my work.

Summary of Key Points and Recommendations for Future CBPR Work

In Chapter Two, I examined the evolution of the environmental justice (EJ) movement in order to better understand key organizing principles from the perspective of communities directly affected by environmental and occupational hazards. I noted differences in how EJ is interpreted among EJ activists and the federal government, namely that federal interpretations of EJ emphasize research versus action, minority and low income populations versus people of color, and environmental equity versus environmental racism. Further, federal EJ discourse stresses meaningful involvement of affected populations. In contrast, grassroots EJ discourse emphasizes self-determination and collective autonomy. This work provided the background and context to recognize discursive differences in how EJ is discussed and practiced in the CBPR setting. It also contributed to the nursing literature by recommending activities to incorporate EJ principles into occupational health nurse practice.

In Chapter Three, I described participant negotiation around the ways distributive, social, procedural and corrective justice contribute to EJ, and the implications of these negotiations for current and future practice. I noted that within the current project, resources were distributed towards a needs assessment of environmental and occupational health among farmworkers and their families. Goals of *responding* to these identified needs have not been met, with six months funding remaining. Such a linear approach to needs identification, prioritization, and response came at the expense of activities that could have directly benefited the farmworker community throughout the project.

Farmworkers were positioned as participants in, and advisors to the research process, but were not members of the primary decision-making body of the organization. This had implications for how the community represented itself, in that advisory board seats were left vacant that could have been filled by other farmworker representatives, and how the project's resources were distributed (see above). Community members' lack of authority within the project prevented a more diverse representation of farmworkers (i.e. pesticide applicator, hops worker) on the community advisory board.

Recommendations for future CBPR work include adopting new governance models where farmworkers serve leadership roles within the organization's governing body so that inquiry and decision-making processes are democratized (Corburn, 2005). Strengths-based approaches should be used to create organizational governance, capitalizing on social networks already present in the community such as neighborhood or church groups (Minkler, 2000). Creating a technical advisory board for researchers

and others with expertise in particular areas would clarify their roles as scientific and technical experts versus community organizers or cross-cultural facilitators (Stoecker, 2003). This approach keeps researchers accountable to the strengths and needs of the farmworking community and prevents their interests from taking precedence.

Other recommendations include providing education on general topics (e.g. the worker's compensation process) concurrent to research activities and recognizing that political activities are critical to linking research with social action. Offering trainings on grant writing and meeting facilitation would build partnership capacity for those that do not have that skill set. Participation in anti-racism workshops would help institutional partners examine and change detrimental institutional norms. These recommendations are consistent with other CBPR projects who have offered trainings on data interpretation, priority setting and policy change in order to build capacity and move from research to action (Minkler, Vasquez, Warner, Steussey, & Facente, 2006).

In Chapter Four, I described participant negotiation around the role that the project should play in "empowering" the farmworker community. Empowerment discourses included using the project as an instrument to a) strengthen the political voice(s) of farmworkers, b) advocate on behalf of farmworkers, and c) advocate on behalf of farmworkers *and* their employers. Proposed project activities varied per empowerment discourse. Only activities associated with strengthening the political voice(s) of farmworkers has the potential to address the procedural injustice that perpetuates environmental injustice in the workplace. Advocacy work on behalf of

farmworkers has the potential to support distributive, social, and corrective justice, while advocating on behalf of employers and employees may support distributive and social justice. Recommendations for future CBPR work include understanding the explanatory models proposed by farmworkers so that project activities are relevant to the farmworker community.

Strengths, Challenges, and Limitations

There were strengths, challenges, and limitations to using discourse and conversation analysis to evaluate partnership processes in the CBPR setting. Both analytic processes take into account the conditions under which text is being produced. This allowed me to examine not just what was said in CBPR meetings but also the influence of institutional constraints in the production of text. Conversation analysis was useful in examining on-site interaction and negotiation among participants through their specific conversation moves and turn taking styles. This micro-level of analysis guided an examination of the role facilitators play in managing speakers and subjects matter, and was used to offer feedback to project facilitators.

Gee's model of discourse analysis was useful in linking EJ discourses discussed by project participants to national and historic EJ discourse. My research linked situated meeting conversations with federal and grassroots EJ discourse. Without studying sentinel documents from the environmental justice movement, for example, I would not have recognized the influence that procedural injustice has played in creating environmental injustice, and the need for more than "meaningful involvement" among

the farmworker community in tackling EJ issues. My analysis linked an examination of EJ in text to other signifying practices, such as placement of farmworkers as advisors within the organization. Overall, these approaches were well-suited to analyze how certain EJ discourses were legitimated or marginalized in the CBPR meeting setting.

The most challenging aspect of using discourse analysis in the CBPR setting was balancing the critical nature of the approach with the relationship-building required in CBPR. Discourse analysis is often used to analyze policy, literature, and historical documents, and is infrequently used to study social interaction in "real time" (Buus, 2005; M. Crowe, 2005). The text that I was analyzing came from individuals I was directly working with in El Proyecto Bienestar. While theoretically I was coming from a perspective that assumes that "we are born into a world of language," others were not aligned with that theoretical perspective (Allen & Hardin, 2001). Thus, understandings about personal agency and intentionality differed between myself and research participants. For example, in response to one of my manuscripts, a participant-reviewer stated, "These are strong words-critical ... This sounds accusatory." These comments assume that I was criticizing individuals within the project, and reflect a theory of language that assumes that language is unique to each individual. In contrast, I maintain that my conclusions reflect the intersection of different cultures, that of scientists and farmworkers, and that language used by individuals reflect the social organizations and cultures of which they are a part. My conclusions are not personal, they are meant to illustrate that "We have the ability to re-position ourselves and to act as agents who are

continually reshaping our worlds, not by stepping outside of them but maneuvering within and among discursive possibilities" (Allen & Hardin, 2001, p. 169).

Other limitations include an assumption that research participants represent the constituencies that they were chosen to represent. No measures were taken in this study to verify that information. Furthermore, identifying a primary constituency that each participant represents oversimplifies who they represent. For example, some of the researchers in this study are also clinicians. The farmworker organization representative is also an active farm worker. Categorization creates a false sense of permanence around social identity. Nonetheless, within El Proyecto Bienestar, participants were chosen based on their ability to represent certain constituencies.

On-site simultaneous Spanish to English translation was used to create English transcripts of meeting conversation. Misrepresentation may have occurred during translation, especially when speakers overlapped each other's speech thereby preventing the translator from translating all of what was said. In addition, portions of the audiorecordings were inaudible and could not be transcribed.

Finally, program evaluation is generally limited to the period in which a project is funded. Restricting an evaluation to this period makes it difficult to capture the institutional histories at work in getting the various partners together in the first place. While this study attempted to briefly contextualize El Proyecto Bienestar within the national EJ movement, it did not contextualize the project in terms of the local agricultural community's history of working, or not working, together.

Validity

Within discursive traditions, validity is a social process constituted by building a greater understanding of participants' constructions of reality, rather than in trying to approximate truth (Gee, 1999; Harding, 1998; Hollway & Jefferson, 2000; Mishler, 1986). All interpretations are partial, hence, validity was established through addressing Gee and Crowe's criteria for establishing methodological and interpretive rigor (M. Crowe, 2005; Gee, 1999).

Agreement Between Researcher and Participants

Portions of analyses were presented to advisory board members who agreed to be interviewed. All advisory board members received portions of the analyses via the mail. No feedback was given from advisory board members who received the mailing. In contrast, presentations created out of this work were reviewed and endorsed by via email by three out of four institutional partners as they were created. No comments were received from the community leader representative.

Results have also been presented informally in core meetings. For example, after discussions about the community advisory board's membership selection process, I prepared an informal presentation which included quotes by advisory board members regarding the criteria they used to select new members. In this way, different discourses about procedural justice were reviewed "on-site" by core participants. This prompted further discussion and alternative interpretations about differences in work and communication styles among project participants, discussions which were sampled in the

body of this work. In addition, the core group had an opportunity to review manuscripts before submission to the University of Washington and, in the future, scholarly journals. This work will be presented at a future joint core and community advisory board meeting, and alternative interpretation will be sought.

Not surprisingly, obtaining feedback from community members was a challenge. One mechanism to overcome this challenge would be to have 'evaluation' as a standing item on the agenda in order to informally address partnership processes regularly.

Convergence Between Textual Analysis and Project Activities

Links between language and other signifying practices were examined and presented, particularly in regards to procedural justice. Other forms of justice, such as corrective justice, were silenced via moves made by the facilitator. Distributive justice was linked to project activities in that the project primarily supported research activities in contrast to other activities such as providing trainings or education to farmworker communities. Conversations around social justice and empowerment have yet to result in any activities being carried out during the current funding cycle. Future research needs to occur to examine the link between empowerment discourses and actual project activities.

Coverage of Discourses Produced

As mentioned previously, the background of the EJ movement and federal interpretation of EJ provided in Chapter Two provided the context from which to examine EJ discourses produced by socioculturally diverse participants in El Proyecto Bienestar. Within the project, numerous verbal and written texts, created under varying

social conditions, provided coverage of ways in which participants discussed EJ within a public space. Kuehn's taxonomy of EJ was used to present multiple EJ discourses heard and practiced in this study. While this taxonomy is constraining, it was adequate in capturing EJ discourses heard within project meetings and linking those discourses to practice.

Linguistic Details

Linguistic details were validated via the dissertation defense process and will continue to be judged through peer review upon submission of this work to relevant journals.

These criteria emphasize the notion that establishing validity is a social process. Whether review consists of academic peers or project participants, the analysis is open for others to judge. These built-in critique processes are critical in that they encourage focused attention on how the social position of the investigator influences the accuracy of the analysis.

Notes to Chapter

Allen, D., & Hardin, P. K. (2001). Discourse analysis and the epidemiology of meaning. *Nursing Philosophy, 2*, 163-176.

Buus, N. (2005). Nursing scholars appropriating new methods: The use of discourse analysis in scholarly nursing journals 1996-2003. *Nursing Inquiry, 12*(1), 27-33.

Corburn, J. (2005). *Street Science: Community Knowledge and Environmental Health Justice*. Cambridge: MIT Press.

Crowe, M. (2005). Discourse analysis: Towards an understanding of its place in nursing. *Journal of Advanced Nursing, 51*(1), 55-63.

Gee, J. G. (1999). *An Introduction to Discourse Analysis: Theory and Method*. London: Routledge.

Harding, S. (1998). *Is Science Multicultural?* Bloomington: Indiana University Press.

Hollway, W., & Jefferson, T. (2000). *Doing Qualitative Research Differently*. London: Sage Publications.

Minkler, M. (2000). Using Participatory Action Research to build Healthy Communities. *Public Health Rep, 115*(2-3), 191-197.

Minkler, M., Vasquez, V. B., Warner, J. R., Steussey, H., & Facente, S. (2006). Sowing the seeds for sustainable change: a community-based participatory research partnership for health promotion in Indiana, USA and its aftermath. *Health Promot Int.*

Mishler, E. (1986). *Research Interviewing: Context and Narrative*. Cambridge: Harvard University Press.

Stoecker, R. (2003). Are Academics Irrelevant? Approaches and Roles for Scholars in Community Based Participatory Research. In M. Minkler & N. Wallerstein (Eds.), *Community Based Participatory Research for Health* (pp. 98-112). San Francisco: Jossey-Bass.

BIBLIOGRPAHY

Adamson, J. (2002). Throwing rocks at the sun: An interview with Teresa Leal. In J. Adamson, M. Evans & R. Stein (Eds.), *The Environmental Justice Reader: Politics, Poetics and Pedagogy*. Tucson: The University of Arizona Press.

Allen, D., & Hardin, P. K. (2001). Discourse analysis and the epidemiology of meaning. *Nursing Philosophy, 2*, 163-176.

American Public Health Association. (2005). Occupational health and safety protections for immigrant workers. Retrieved 3/1/2006, from http://www.apha.org/legislative/policy/policysearch/index.cfm?fuseaction=view& id=1318.

Ammerman, A., Corbie-Smith, G., St George, D. M., Washington, C., Weathers, B., & Jackson-Christian, B. (2003). Research expectations among African American church leaders in the PRAISE! project: a randomized trial guided by community-based participatory research. *Am J Public Health, 93*(10), 1720-1727.

Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of American Instructional Planners 35*, 216-224.

Association of Occupational and Environmental Health Clinics. (2005). Occupational Health Internship Program. Retrieved 5/8/2006, from http://www.aoec.org/OHIP/home.htm.

Baker, R., Szudy, B., & Guerriero, J. (2000). Working with labor unions. What occupational health nurses need to know. *AAOHN Journal, 48*(12), 563-570; quiz 571-562.

Beck, E. C. (1978). The love canal tragedy. *EPA Journal* Retrieved 3/1/2006, from http://www.epa.gov/history/topics/lovecanal/01.htm.

Bernard, H. R. (2002). *Research Methods in Anthropology*. New York: Alta Mira Press.

Bravo, J. T., & View, J. (2006). Info and action brief: Two year annual report 2003-2005. Retrieved 3/1/2006, from http://www.jtalliance.org/.

Brown, M. (2003). Risk mapping as a tool for community based participatory research and organizing. In M. Minkler & N. Wallerstein (Eds.), *Community-based Participatory Research for Health* (pp. 446-450). San Francisco: Jossey-Bass.

Buus, N. (2005). Nursing scholars appropriating new methods: The use of discourse analysis in scholarly nursing journals 1996-2003. *Nursing Inquiry, 12*(1), 27-33.

Cable, S., Mix, T., & Hastings, D. (2005). Mission impossible? Environmental justice activists' collaborations with professional environmentalists and with academics. In D. N. Pellow & R. J. Brulle (Eds.), *Power, justice, and the environment: A critical appraisal of the environmental justice movement.* Cambridge: The MIT Press.

Centers for Disease Control and Prevention. (2006). Advancing the Nation's Health: A Guide to Public Health Research Needs, 2006 - 2015. Retrieved 12/26/06, 2006, from http://www.cdc.gov/od/science/PHResearch/cdcra/Guide_to_Public_Health_Research_Needs.pdf

Chrisman, N. J., Senturia, K., Tang, G., & Gheisar, B. (2002). Qualitative process evaluation of urban community work: a preliminary view. *Health Educ Behav, 29*(2), 232-248.

Clinton, W. J. (1994). Executive Order: Federal actions to address environmental justice in minority populations and low income populations. Retrieved 1/31, 2007, from http://www.epa.gov/fedrgstr/eo/eo12898.pdf

Cole, F., & Foster, S. (2001). *From the ground up: Environmental racism and the rise of the environmental justice movement.* New York: New York University Press.

Corburn, J. (2002). Combining community-based research and local knowledge to confront asthma and subsistence-fishing hazards in Greenpoint/Williamsburg, Brooklyn, New York. *Environ Health Perspect, 110 Suppl 2*, 241-248.

Corburn, J. (2005). *Street Science: Community Knowledge and Environmental Health Justice.* Cambridge: MIT Press.

Crotty, M. (1998). *The Foundations of Social Research.* London: Sage Publications.

Crowe, J., & Keifer, M. (2006). CBPR: Achieving community participation in research to improve farmworker health. *Journal of Agricultural Safety and Health.*

Crowe, M. (2005). Discourse analysis: Towards an understanding of its place in nursing. *Journal of Advanced Nursing, 51*(1), 55-63.

Delbecq, A., Van de Ven, A., & Gustafson, D. (1986). *Group Techniques for Program Planning: A Guide to Nominal Group Process and Delphi Processes.* Middleton: Green Briar Press.

Demers, P., & Rosenstock, L. (1991). Occupational injuries and illnesses among Washington State agricultural workers. *Am J Public Health, 81*(12), 1656-1658.

Department of Health and Human Services. (2007). Community Participation in Research. Retrieved 1/12, 2007, from http://grants.nih.gov/grants/guide/pa-files/PAR-05-026.html

El Proyecto Bienestar Core group. (2005). *Environmental justice definition.* Yakima: El Proyecto Bienestar.

Engel, L. S., Keifer, M. C., & Zahm, S. H. (2001). Comparison of a traditional questionnaire with an icon/calendar-based questionnaire to assess occupational history. *Am J Ind Med, 40*(5), 502-511.

Environmental Protection Agency. (2003). *Towards an environmental justice collaborative model: An evaluation of the use of partnerships to address environmental justice issues in communities* (No. EPA/100-R-03-001): Environmental Protection Agency: Office of Policy, Economics, and Innovation.

Erzinger, S. (1994). Empowerment in Spanish: Words can get in the way. *Health Education Quarterly, 21,* 417-419.

Espino, V. (2000). Women sterilized as they give birth: Forced sterilization and Chicana resistance. In V. Ruiz (Ed.), *Las obreras: Chicana politics of work and family.* Los Angeles: Chicano Studies Research Center, UCLA.

Fenske, R., & Simcox, N. (2000). Agricultural Workers. In B. S. Levy & D. H. Wegman (Eds.), *Occupational Health: Recognizing and Preventing Work-Related Disease and Injury.* Philadelphia: Lippincott, Williams, and Wilkins.

Flocks, J., Clarke, L., Albrecht, S., Bryant, C., Monaghan, P., & Baker, H. (2001). Implementing a community-based social marketing project to improve agricultural worker health. *Environ Health Perspect, 109 Suppl 3*, 461-468.

Foucault, M. (1972). *Power/Knowledge: Selected interviews and other writings 1972-1977*. New York: Pantheon Books.

Fox, M. A. (2002). Evaluating cumulative risk assessment for environmental justice: a community case study. *Environ Health Perspect, 110 Suppl 2*, 203-209.

Frumkin, H., Walker, E. D., & Friedman-Jimenez, G. (1999). Minority workers and communities. *Occup Med, 14*(3), 495-517.

Gee, J. G. (1999). *An Introduction to Discourse Analysis: Theory and Method*. London: Routledge.

Geiser, K., & Rosenberg, B. (2006). The Social Context of Occupational and Environmental Health. In B. Levy, D. H. Wegman, S. L. Baron & R. K. Sokas (Eds.), *Occupational and Environmental Health: Recognizing and Preventing Disease and Injury* (pp. 21-38). Philadelphia: Lippincott, Williams and Wilkins.

Grembowski, D. (2001). *The Practice of Health Program Evaluation*. Thousand Oaks: Sage Publications.

Gutierrez, L., Parsons, R., & Cox, E. (1998). *Empowerment in Social Work Practice: A Sourcebook*. Pacific Grove, CA: Brooks/Cole.

Halliday, M. A. K. (2004). *An Introduction to Functional Grammar*. London: Arnold.

Hardin, P. K. (2001). Theory and language: locating agency between free will and discursive marionettes. *Nurs Inq, 8*(1), 11-18.

Harding, S. (1998). *Is Science Multicultural?* Bloomington: Indiana University Press.

Hartmann, B. (1995). *Reproductive rights and wrongs*. Boston: Beacon Press.

Hollway, W., & Jefferson, T. (2000). *Doing Qualitative Research Differently*. London: Sage Publications.

Israel, B. A., Checkoway, B., Schulz, A., & Zimmerman, M. (1994). Health education and community empowerment: conceptualizing and measuring perceptions of individual, organizational, and community control. *Health Educ Q, 21*(2), 149-170.

Israel, B. A., Lichtenstein, R., Lantz, P., McGranaghan, R., Allen, A., Guzman, J. R., et al. (2001). The Detroit Community-Academic Urban Research Center: development, implementation, and evaluation. *J Public Health Manag Pract, 7*(5), 1-19.

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annu Rev Public Health, 19*, 173-202.

Jones, L., & Wells, K. (2007). Strategies for academic and clinician engagement in community-participatory partnered research. *Jama, 297*(4), 407-410.

Kaner, S. (1996). *Facilitator's Guide to Participatory Decision-Making*. Gabriola Island: New Society Publishers.

Keifer, M., Salazar, M., Snyder, K. (2003). Community Health Intervention with Yakima Agricultural Workers: University of Washington.

Kretzmann, J. P., & McKnight, J. (1993). *Building community from the inside out: A path toward finding and mobilizing a community's assets*. Evanston, IL: Center for Urban Affairs and Policy Research, Northwestern University.

Krieger, J., Allen, C., Cheadle, A., Ciske, S., Schier, J. K., Senturia, K., et al. (2002). Using community-based participatory research to address social determinants of health: lessons learned from Seattle Partners for Healthy Communities. *Health Educ Behav, 29*(3), 361-382.

Kuehn, R. (2000). A taxonomy of environmental justice. *Environmental Law Reporter, 30*(10,681).

Labonte, R. (1994). Health promotion and empowerment: Reflections on professional practice *Health Education Quarterly, 21*(2), 253-268.

109

Labor Market and Economic Analysis Branch. (1997). *Yakima County Profile*. Yakima, Washington: Labor Market and Economic Analysis Branch, Washington State Employment Security Department.

Lantz, P. M., Viruell-Fuentes, E., Israel, B. A., Softley, D., & Guzman, R. (2001). Can communities and academia work together on public health research? Evaluation results from a community-based participatory research partnership in Detroit. *J Urban Health, 78*(3), 495-507.

Larson, A. (2000). *Migrant and Seasonal Farmworker Enumeration Profiles Study: Washington*: Migrant Health Program, Bureau of Primary Health Care, Health Resources and Services Administration.

Larson, A. (2001). *Environmental/Occupational Safety and Health*. Buda, TX: National Advisory Council on Migrant Health.

Letiecq, B. L., & Bailey, S. J. (2004). Evaluating from the outside: conducting cross-cultural evaluation research on an American Indian reservation. *Eval Rev, 28*(4), 342-357.

Linnan, L., & Steckler, A. (2002). Process Evaluation for Public Health Interventions and Research: An overview. In L. Linnan & A. Steckler (Eds.), *Process Evaluation for Public Health Interventions and Research*. San Francisco: Jossey-Bass.

Madison, A. M. (2000). Language in Defining Social Problems. *New Directions for Evaluation, 86*, 17-28.

Martinez, S. (2003). *Environmental justice: A complex and emotional issue*. Yakima: El Proyecto Bienestar.

McAllister, C. L., Green, B. L., Terry, M. A., Herman, V., & Mulvey, L. (2003). Parents, practitioners, and researchers: community-based participatory research with early head start. *Am J Public Health, 93*(10), 1672-1679.

McCauley, L. (2005). Advances in genetics and technology: Implications for occupational health. *AAOHN Journal, 53*(12), 514.

McCauley, L. A., Beltran, M., Phillips, J., Lasarev, M., & Sticker, D. (2001). The Oregon migrant farmworker community: an evolving model for participatory research. *Environ Health Perspect, 109 Suppl 3*, 449-455.

McCurdy, S. A., & Carroll, D. J. (2000). Agricultural injury. *Am J Ind Med, 38*(4), 463-480.

McNeil, D. G. (1978, August 2). Upstate waste site may endanger lives. *The New York Times,* pp. A1, B9.

Meade, C. D., & Calvo, A. (2001). Developing community-academic partnerships to enhance breast health among rural and Hispanic migrant and seasonal farmworker women. *Oncol Nurs Forum, 28*(10), 1577-1584.

Mihesuah, D. (1998). Introduction. In D. Mihesuah (Ed.), *Natives and Academics: Researching and writing about American Indians* (pp. 1-22). Lincoln: University of Nebraska Press.

Minkler, M. (2000). Using Participatory Action Research to build Healthy Communities. *Public Health Rep, 115*(2-3), 191-197.

Minkler, M., Vasquez, V. B., Warner, J. R., Steussey, H., & Facente, S. (2006). Sowing the seeds for sustainable change: a community-based participatory research partnership for health promotion in Indiana, USA and its aftermath. *Health Promot Int.*

Minkler, M., & Wallerstein, N. (2003). Introduction to community based research. In M. Minkler & N. Wallerstein (Eds.), *Community-Based Participatory Research for Health* (pp. 3-26). San Francisco: Jossey-Bass.

Mishler, E. (1986). *Research Interviewing: Context and Narrative*. Cambridge: Harvard University Press.

Monaghan, P., & Forst, L. (2006, November 4-8, 2006). *Adapting A Community Health Worker Model To Reduce Eye Injuries Among Citrus Workers*. Paper presented at the Public Health and Human Rights: American Public Health Association 134th Annual Meeting and Exposition Boston, MA.

Moses, M. (1993). Farmworkers and Pesticides. In R. Bullard (Ed.), *Confronting Environmental Racism: Voices from the Grassroots*. Boston: South End Press.

Mulroy, E. (2004). Theoretical perspectives on the social environment to guide management and community practice: An organization-in-environment approach. *Administration in Social Work, 28*(1), 77-96.

National Institute of Environmental Health Sciences. (2006, April 12). Environmental Justice: Partnerships for Communication. Retrieved 12/26, 2006, from http://www.niehs.nih.gov/translat/envjust/envjust.htm

National Safety Council. (2000). *Injury Facts*. Itaska: National Safety Council.

Navarette, C., & Young, S. (2006). *Best practices in serving Oaxacan indigenous farmworkers*. Paper presented at the Western Migrant Stream Forum, Portland, OR.

Novotny, P. (2000). *Where we live, work, and play: The environmental justice movement and the struggle for a new environmentalism* London: Praeger.

Paranzino, G., Butterfield, P., Nastoff, T., & Ranger, C. (2005). I PREPARE: Development and clinical utility of an environmental exposure history pneumonic. *AAOHN, 53*(1), 37-42.

Parker, E. A., Israel, B. A., Williams, M., Brakefield-Caldwell, W., Lewis, T. C., Robins, T., et al. (2003). Community action against asthma: examining the partnership process of a community-based participatory research project. *J Gen Intern Med, 18*(7), 558-567.

Pease, B. (2002). Rethinking empowerment: A postmodern reappraisal for emancipatory practice. *British Journal of Social Work 32*, 135-147.

Peña, D. (2000). *Environmental justice analysis of the Sound Transit light rail preferred alternative and final environmental impact statement* Seattle.

Peña, D. (2003a). *Autonomy, equity, and environmental justice*. Paper presented at the Provost's Lecture Series on Race, Poverty, and Environmental Justice Brown University, Providence, Rhode Island

Peña, D. (2003b). The Watershed commonwealth of the Upper Rio Grande. In J. K. Boyce & B. G. Shelley (Eds.), *Natural Assets: Democratizing Environmental Ownership* (pp. 169-185). London: Island Press.

Peña, D. (2005). *Mexican Americans and the Environment: Tierra y Vida*. Tucson: The University of Arizona Press.

Pinderhughes, R. (2003). Poverty and the environment: The urban agriculture connection. In J. K. Boyce & B. G. Shelley (Eds.), *Natural Assets*. London: Island Press.

Postma, J. (2006). Environmental justice: Implications for occupational health nurses. *AAOHN Journal, 54*(11), 489-496; quiz 497-488.

Postma, J. (2007). Negotiating Environmental Justice in El Proyecto Bienestar (The Well Being Project) Seattle: University of Washington.

Potvin, L., Cargo, M., McComber, A. M., Delormier, T., & Macaulay, A. C. (2003). Implementing participatory intervention and research in communities: Lessons learned from the Kahnawake Schools Diabetes Prevention Project in Canada. *Social Science and Medicine, 56*, 1295-1305.

Powell, D., & Slade, D. (2003). Advocating for environmental justice: Protecting vulnerable communities from pollution. In B. Sattler & J. Lipscomb (Eds.), *Environmental health and nursing practice* (pp. 321-338). New York: Springer Publishing Company.

Pulido, L. (1996). Development of the "people of color" identity in the environmental justice movement of the southwestern United States. *Socialist Review, 26*, 145-180.

Pulido, L., & Peña, D. (1998). Environmentalism and positionality: The early pesticide campaign of the United Farm Workers' Organizing Committee, 1965-71. *Race, Gender & Class, 6*(1), 33-50.

Quandt, S., Arcury, T., Austin, C., & Cabrera, L. (2001). Preventing occupational exposure to pesticides: Using participatory research with latino farmworkers to develop an intervention. *Journal of Immigrant Health, 3*(2), 85-96.

Quandt, S. A., Arcury, T. A., & Pell, A. I. (2001). Something for everyone? A community and academic partnership to address farmworker pesticide exposure in North Carolina. *Environ Health Perspect, 109 Suppl 3*, 435-441.

Quandt, S. A., Doran, A. M., Rao, P., Hoppin, J. A., Snively, B. M., & Arcury, T. A. (2004). Reporting pesticide assessment results to farmworker families: development, implementation, and evaluation of a risk communication strategy. *Environ Health Perspect, 112*(5), 636-642.

Rao, P., Arcury, T., & Quandt, S. (2004). Student participation in community-based participatory research to improve migrant and seasonal farmworker environmental health: Issues for success. *The Journal of Environmental Education, 35*(2), 3-15.

Rechtschaffen, C., & Gauna, E. (2002a). *Environmental Justice: Law, policy and regulation*. Durham, North Carolina: Carolina Academic Press.

Rechtschaffen, C., & Gauna, E. (2002b). *Environmental Justice: Law, Policy, and Regulation*. Durham: Carolina Academic Press.

Resnicow, K., Baranowski, T., Ahluwalia, J. S., & Braithwaite, R. L. (1999). Cultural sensitivity in public health: defined and demystified. *Ethn Dis, 9*(1), 10-21.

Robertson, A., & Minkler, M. (1994). New health promotion movement: A critical examination. *Health Education Quarterly, 21*(3), 295-312.

Rogers, B. (2000). Ethical principles and occupational health. *AAOHN Journal, 48*(10), 456-457.

Rothman, N. L., Lourie, R. J., & Gaughan, J. (2002). Lead awareness: North Philly style. *Am J Public Health, 92*(5), 739-741.

Salazar, M. (2005). *Environmental Justice: Partnerships for Communication, Community-Based Intervention with Yakima Valley Agricultural Workers, Evaluation: Half Year Report*. Seattle: University of Washington.

Salazar, M. K. (2004). *Environmental Justice: Partnerships for Communication Year End Evaluation Report*. Seattle, WA: University of Washington.

Salazar, M. K., Kemerer, S., Amann, M. C., & Fabrey, L. J. (2002). Defining the roles and functions of occupational and environmental health nurses. Results of a national job analysis. *AAOHN Journal, 50*(1), 16-25.

Sanchez, Y. (2006). Environmental Justice. Retrieved 7/25/2006, 2006, from http://depts.washington.edu/envhlth/info/env_justice/index.html

Sattler, B. (2005). Policy perspectives in environmental health: Nursing's evolving role. *AAOHN Journal, 53*(1), 43-51.

Schill, A. L. (2000). Genetic information in the workplace. Implications for occupational health surveillance. *AAOHN Journal, 48*(2), 80-91.

Shadbeh, N., Farquhar, S., & Samples, J. (2006, November 4-8, 2006). *Promoting the Occupational Health of Indigenous Farmworkers.* Paper presented at the Public Health and Human Rights: American Public Health Association 134th Annual Meeting and Exposition, Boston, MA.

Sharp, R. R., & Foster, M. W. (2002). Community involvement in the ethical review of genetic research: Lessons from American Indian and Alaska Native populations. *Environ Health Perspect, 110 Suppl 2*, 145-148.

Shepard, P., Northridge, M., Prakash, S., Stover, G. (2002). Advancing environmental justice through community based participatory research. *Environ Health Perspect Supplements, 110*(2), 139-140.

Shimek, R. (2006). Mining campaign. Retrieved 3/1/2006, from http://www.ienearth.org/mining_campaign.html.

Sidani, S., & Braden, C. (1998). *Evaluating Nursing Interventions: A Theory-Driven Approach.* Thousand Oaks: Sage Publications.

Silverstein, M., & Mirer, F. E. (2000). Labor unions and occupational health. In B. S. Levy & D. H. Wegman (Eds.), *Occupational Health: Recognizing and Preventing Work-Related Disease and Injury* (pp. 715-728). Philadelphia: Lippincott Williams and Wilkins.

Snyder, K. (2001). *Body Wise: Perceptions of health and safety risks for Latina apple warehouse workers in Washington state.* Unpublished Dissertation, University of Washington, Seattle.

Stoecker, R. (2003). Are Academics Irrelevant? Approaches and Roles for Scholars in Community Based Participatory Research. In M. Minkler & N. Wallerstein (Eds.), *Community Based Participatory Research for Health* (pp. 98-112). San Francisco: Jossey-Bass.

Strickland, J. C. (2006). Challenges in Community-Based Participatory Research Implementation: Experiences in Cancer Prevention With Pacific Northwest American Indian Tribes. *Cancer Culture and Literacy, 13*(3), 230-236.

Sullivan, M., Kone, A., Senturia, K. D., Chrisman, N. J., Ciske, S. J., & Krieger, J. W. (2001). Researcher and researched--community perspectives: toward bridging the gap. *Health Educ Behav, 28*(2), 130-149.

Sze, J., & Prakash, S. (2004). Human genetics, environment, and communities of color: ethical and social implications. *Environ Health Perspect, 112*(6), 740-745.

Taylor, D. E. (2000). The Rise of the environmental justice paradigm: Injustice framing and the social construction of environmental discourse. *American Behavioral Scientist, 43*(4), 508-580.

ten Have, P. (1999). *Doing Conversation Analysis.* London: Sage Publications.

The People's Institute. (2006). The People's Institute for Survival and Beyond. Retrieved 12/07/06, 2006, from http://www.pisab.org/

U.S. Bureau of the Census. (2000). *1999 American Community Survey Profile for Yakima County.* Washington: U.S. Bureau of the Census.

U.S. Department of Health and Human Services. (2004). Healthy People 2010. Retrieved 7/15, 2004, from http://www.healthypeople.gov/About/goals.htm

United Church of Christ's Commission for Racial Justice. (1987). *Toxic wastes and race in the United States: A national report on the racial and socioeconomic characteristics of communities with hazardous waste sites.* New York: Public Data Access, Inc.

Villarejo, D. (2003). The health of U.S. hired farm workers. *Annu Rev Public Health, 24*, 175-193.

Wallerstein, N. (1999). Power between evaluator and community: research relationships within New Mexico's healthier communities. *Soc Sci Med, 49*(1), 39-53.

Wallerstein, N., & Duran, B. (2003). The Conceptual, Historical, and Practice Roots of Community Based Participatory Research and Related Participatory Traditions. In M. Minkler & N. Wallerstein (Eds.), *Community Based Participatory Research for Health* (pp. 27-52). San Francisco: Jossey-Bass.

Wallerstein, N. B., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Health Promot Pract, 7*(3), 312-323.

APPENDIX A

Key Informant Interview Guide

<u>Part I: Introduction and purpose of study & participants' role in the study</u>

I am interested in how different project participants talk about, and work to

achieve, the goals of El Proyecto over the course of the project. I am interviewing certain

participants throughout the phases of the project in order to listen to how different people

talk about occupational and environmental health in the Yakima Valley. It is my hope

that paying attention to how different people talk about these issues will facilitate the

group working together to address the issues.

I've allotted one hour per interview, but if more time is needed we can arrange to

meet again. The interview topics will primarily be based on the work that goes on within

El Proyecto, plus whatever else you feel is important to discuss.

<u>Part II: Review of consent form, obtaining written consent / chance to refuse participation</u>

Before we begin, I'd like you to take time to review the consent form. The

purpose of the consent form is to give you information you will need to help you decide

to be in the study or not. Please take a few minutes to review the information in the

consent form.

<u>Part III: Asking permission to audiotape the interview / chance to refuse audiotape</u>

I'd like to tape record our conversation so that I can review it later, is that ok with

you? I'd also like to take notes as we talk so that I can review them later, is that ok with

you?

Part IV: Interview guide

RE: Identification and Prioritization of occupational and environmental health issues

The overall purpose of El Proyecto Bienestar is "to develop strategies that will enable the Hispanic/Latino community in the Yakima Valley, Washington state, to effectively identify, characterize, and respond to the many occupational and environmental risks related to agricultural work."

1. How would you say El Proyecto Bienestar is doing in identifying the occupational and environmental health risks faced by the Latino agricultural community in the Yakima Valley?

2. At this stage in the project, how would you say El Proyecto Bienestar is doing in characterizing or prioritizing the occupational and environmental health risks faced by the Latino agricultural community in the Yakima Valley?

3. Do you feel that your opinions are being heard and acted upon?

RE: Environmental Justice

In the CAB meetings in January and April there was quite a bit of discussion surrounding the concept of "Environmental Justice" (EJ) in the context of talking about the ConneX curriculum and the Environmental Justice definition for El Proyecto. You talked about EJ ... [insert my analysis of participants' talk]

4. Is this an accurate representation or summary of what you said?

5. Is there anything you'd like to add regarding how you would describe Environmental Justice, and how you would like to see that incorporated into El Proyecto? How would

you talk about Environmental Justice if you were talking to a friend, co-worker,

colleague ...

For those participants who speak Spanish as their primary language,

5a. Are their words or concepts in Spanish that better capture "Environmental Justice"

than is possible to express in the English language?

RE: Participation

One of the goals of El Proyecto Bienestar is to provide opportunities for the agricultural

community to understand and actively participate in decision-making related to

occupational and environmental health.

6. Do you think that there have been adequate opportunities and mechanisms so far in the

process?

7. As a participant in El Proyecto, how is this process going for you?

RE: Evaluation

Finally, I would like to give you a chance to share what you think ought to be evaluated,

and how.

8. What aspects of El Proyecto would you like to see evaluated?

9. Do you have any suggestions as to how you would like those issues to be evaluated?

Part V: Closing

10. Is there anything else that you would like to talk about that we didn't get a chance to

discuss?

11. Would it be possible for me to contact you in the event that I have questions about our discussion today? In addition, please feel free to contact me if you have any questions about this process evaluation study. My contact information is on the consent form. Do not forget to fill out your mileage and/or child care reimbursement form. Please give the form to the project coordinator, Lupe Sotelo, at the next meeting or send it in the mail. Thank you for your time.

APPENDIX B

Key Informant Interview Consent Form (English)

UNIVERSITY OF WASHINGTON CONSENT FORM
El Proyecto Bienestar Process Evaluation

Researcher:	Project Coordinator:
Julie Postma, PhC, BSN, RN	Guadalupe Sotelo
University of Washington School of Nursing	Radio KDNA
Box 357260	121 Sunnyside Ave.
Seattle, WA 98195	Granger, WA 98948
Telephone: 206-245-9141	Telephone: 509-854-2222
Email: jmpostma@u.washington.edu	Email: gsotelo@kdna.org

Investigators' statement

I am asking you to be in a research study. The purpose of this consent form is to give you the information you will need to help you decide whether or not to be in the study. Please read the form carefully. You may ask questions about the purpose of the research, what I would ask you to do, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When all your questions have been answered, you can decide if you want to be in the study or not. This process is called 'informed consent.'

PURPOSE

I want to better understand how participants communicate with each other in El Proyecto Bienestar. I would like to better understand how different participants talk about environmental and occupational health issues. I would like to interview both Core and Community Advisory Board members about their experiences as an El Proyecto Bienestar member.

PROCEDURES

If you choose to be in this study, I would like to interview you about your experiences in El Proyecto Bienestar twice throughout the project. Each interview will last about 30 to 60 minutes and will focus on your role in El Proyecto. For example, I will ask you, "How is this process going for you?" and "Do you feel that your opinions are being heard and acted upon?" You do not have to answer every question.

The interview will be in the language that you prefer, either in Spanish or English. If you would like the interview to be in Spanish, our project coordinator Guadalupe Sotelo will interview you. I will be present with a translator so that I can ask additional questions if needed. If you would like the interview to be in English, I will conduct the interview.

I would like to audiotape your interview so that I can have an accurate record. Only the research team will have access to the audiotapes, which will be kept in a locked file cabinet. We will transcribe your interview tape within 8 weeks of your interview, assign a study code to the transcript, and destroy the tape. Please indicate below whether or not you give your permission for me to audiotape your interview.

RISKS, STRESS, OR DISCOMFORT

Some people feel that providing information for research is an invasion of privacy. I have addressed concerns for your privacy in the section below. Some people feel self-conscious when they are audiotaped.

BENEFITS

I hope the results of this study will help us better understand different people's perspectives on occupational and environmental health. I hope that the results of this study will help El Proyecto Bienestar participants work together. You may not directly benefit from taking part in this research study.

OTHER INFORMATION

Taking part in this study is voluntary. You can stop at any time. Information about you is confidential. I will code the study information. I will keep the link between your name and the code in a separate, secured location until December 31, 2007. Then I will destroy the link. UW, state, and federal regulators may need to review study records about you. If the results of this study are published or presented, we will not use your name.

I may want to re-contact you to clarify information from your interview. In that case, I will telephone you and ask you for a convenient time to ask you additional questions closely related to your interview. Please indicate below whether or not you give your permission for me to re-contact you for that purpose. Giving your permission for me to re-contact you does not obligate you in any way.

I may want to quote you using your name. In that case, I will ask you to review the quote and edit it before giving your written permission to publish the quote with your name.

If you have any questions about this research study, please contact Julie Postma or Guadalupe Sotelo at the telephone number or e-mail listed above. If you have any questions about your rights as a research subject, please contact the University of Washington Human Subjects Division: 206-543-0098.

If you do choose to participate in this study, your mileage to and from the interview site will be reimbursed, as well as child care expenses for the time that you are being interviewed.

_____Julie Postma_____April 26, 2005_____

Signature of investigator   Printed Name   Date

<u>Subject's statement</u>

This study has been explained to me. I volunteer to take part in this research. I have had a chance to ask questions. If I have questions later on about the research I can ask one of the investigators listed above. If I have questions about my rights as a research subject, I can call the University of Washington Human Subjects Division at (206) 543-0098. I will receive a copy of this consent form.

I give my permission for the researcher to audiotape my interview.
Yes____   No____

I give my permission for the researcher to re-contact me to clarify information.
Yes____   No____

_____

Signature of subject   Printed name   Date

Copies to: Investigator's file
                Subject

APPENDIX C

Key Informant Interview Consent Form (Spanish)

UNIVERSIDAD DE WASHINGTON FORMA DE CONSENTIMIENTO
EL PROYECTO BIENESTAR PROCESO DE EVUALACION

INVESTIGADOR;   COORDINADORA DEL PROYECTO
Julie Postma, PhC, BSN, RN   Guadalupe Sotelo
University of Washington School of Nursing   Radio KDNA
Box 357260   121 Sunnyside Ave.
Seattle, WA 98195   Granger, WA 98932
Telephone: 206-245-9141   Telephone: 509-854-2222
Email: jmpostma@u.washington.edu   Email: gsotelo@kdna.org

Declaracion Del Investigator

Le estoy pidiendo que sea parte un estudio investigador. El propósito de esta forma de consentimiento es ara darle a usted información que usted necesitara para decidir si quiere ser parte de este estudio o no. Favor de leer la forma cuidadosamente. Usted puede hacer preguntas del propósito de esta investigación, lo que yo le voy a pedir que haga, es los posibles riesgos y beneficios, sus derechos como voluntario, y cualquier cosa de la investigación o si esta forma no esta clara. Cuando ya hayan contestado todas sus preguntas, usted puede decidir si quiere ser parte de este estudio o no. Este proceso se llama "consentimiento informado."

PROPOSITO

Yo quiero tener un mejor entendimiento de la comunicación dentro de los participantes de El Proyecto Bienestar. También quisiera mejor entender como los diferentes participantes hablan de cuestiones de salud ambiental y ocupacional. Quisiera yo entrevistar a ambos miembros de el CORE y la Mesa de Consejo de sus experiencias como miembros de El Proyecto Bienestar.

Procedimientos

Si usted decide ser parte de este estudio, yo quisiera entrevistar a usted de sus experiencias en El Proyecto Bienestar dos veces durante todo el proyecto Cada entrevista se llevaran aproximadamente de 30 a 60 minutos y se enfocaran en su papel en el El

Proyecto. Por ejemplo yo le preguntare "¿Como le ha ido en el proceso a usted? ¿Piensa usted que su voz a sido escuchada, que sus opiniones son valorados?" Usted no tiene que contestar todas las preguntas.

La entrevista será en el lenguaje que usted prefiera, español o ingles, en un lugar conveniente para usted como en las oficinas de Radio KDNA, Granger, WA. Si usted quiere que la entrevista sea en español, nuestra Coordinadora del Proyecto Guadaupe Sotelo lo entrevistara. Yo estaré presente con un interpele para yo preguntar otras preguntas adicionales, si es necesario. Si usted quiere que la entrevista sea en ingles, yo conduciré la entrevista.

Quisiera grabar la entrevista para yo tener un registro exacto de lo que dijo usted. Nadamas yo tendré aseos a estas grabaciones, que serán guardadas en un gabinete con cerradura. Nosotro vamos a trascribir estas cintas de la entrevista dentro de 8 días de su entrevista, un código será asignado a trascripción de estudio, y luego la cinta será destruida. Por favor indique abajo si otorga permiso para que yo grabe esta entrevista.

RIESGOS, ESTRESS, O INCONFORMIDAD

Unas personas se sienten que dando su información para investigaciones es invasión de privacidad. Yo e dirigido la palabra de preocupación sobre so privacidad en la sección abajo. Unas gentes se sienten tímidas cuando son grabadas sus entrevistas. Yo espero que los resultados de este estudio nos ayude a mejor entendender la perpestiva de la gente sobre la salud ambiental y ocupacional. Yo espero que el resultado de este estudio ayude a los participantes de El Proyecto Bienestar a que trabajen juntos. Usted pueda que no beneficié directamente de este estudio investigador.

OTRA INFORMACION

Teniendo parte en este estudio es voluntario. Usted puede parar en cualquier tiempo. Información de usted es confidencial. Yo le pondré un código al la información del estudio. Yo tendré un eslabón entre su nombre y el código separado en una lugar seguro hasta el 31 de Diciembre del 2007. Luego destruiré el eslabón. UW, estado, y reguladores federales pueda que necesiten revisar el archivo del estudio de usted. Si los resultados de este estudio son publicados o presentados, nosotros no usaremos su nombre.

Pueda que yo quiera volver a comunicarme con usted par clarificar información de su entrevista. En este caso yo le llamare por teléfono, pidiéndole que hora sea más conveniente para hacer preguntas relacionadas de su entrevista. Por favor indique abajo si otorga permiso para yo volver a comunicarle para este propósito. Dando su permiso, no lo obliga a usted de ninguna manera.

Yo pueda que quiera cotizar su nombre. En este caso, yo le pediré que usted revise su cotiza y redactar la misma antes de dar su permiso para publicar la cotiza con su nombre.

Si tiene usted preguntas de este estudio investigador, por favor comuníquese con Julie Postma o Guadalupe Sotelo al número de teléfono, o por correo electrónico escrito arriba de este papel. Si tiene preguntas sobre de sus derechos como sujeto investigador comuníquese con la Division de Sujetos Humanos de Universidad de Washington al 206-543-0098

Si usted elige participar en este estudio, su millaje para y del lugar de la entrevista será reembolsado, como también el cuidado de niños, por el tiempo que usted esta entrevistado.

_____Julie Postma_____4/26/2005_____
Nombre de Investigador en letra molde   Firma de Investigador   Fecha

<u>Declaración de Sujeto</u>

Este estudio se ha explicado a mí. Yo como voluntario quiero ser parte de esta investigación. Yo e tenido oportunidad de hacer preguntas. Si llego a tener preguntas mas delante de esta investigación, yo puedo llamarles a uno de los investigadores enlistados arriba. Si yo tengo preguntas sobre mis derechos como sujeto investigador, yo podré llamar a la División de Sujetos Humanos al (206) 543-0098. Yo recibiré una copia de esta Forma de Consentimiento.

Yo otorgo permiso al investigador a que sea grabada mi entrevista.
Si_____   No_____

Yo otorgo permiso para que el investigador se vuelva a comunicarse conmigo para aclarar información.
Si_____   No_____

_____
Nombre de Sujeto en molde   Firma de Sujeto   Fecha

Copias a: Archivo de Investigador
          Sujeto

CURRICULUM VITAE

Julie Marie Postma

EDUCATION

PhD in Nursing Science, February, 2007
    University of Washington School of Nursing, Seattle, WA
    Dissertation: Environmental Justice Discourses in El Proyecto Bienestar
    Committee Members: M. Salazar, D. Allen, D. Peña, P. Butterfield, K. Spencer

Bachelor's of Science in Nursing, Graduated summa cum laude, May 1998
    University of Michigan School of Nursing, Ann Arbor, MI

PREDOCTORAL FELLOWSHIPS

Multidisciplinary Clinical Research Training Program, 2006-2007
    National Institutes of Health Roadmap (# T32/RR02356)
Education and Research Center Training Grant, 2004-2006
    National Institute of Occupational Safety and Health (# T42/CCT010418-11)
Biobehavioral Nurse Training Grant, 2002-2004
    National Institute of Nursing Research (# TG 5T32 NR007 106-04)

SCHOLARSHIPS

Citizen of the World Scholarship, 2006
Hester McLaws Nursing Scholarship, 2005
Warren G. Magnuson Scholarship for Academic Excellence, 2004-2005
Western Migrant Stream Forum's Annual Scholarship, 2003-2006

HONORS

Nine term James B. Angell Scholar, University of Michigan, Ann Arbor, MI 1994-1998
Academic Dean's List, 10 semesters, University of Michigan, Ann Arbor, MI 1993-1998
Elected "Most Outstanding Peer Role Model in the Classroom," University of Michigan, Ann Arbor, MI 1996, 1997

RESEARCH EXPERIENCE

Research Assistant II, Environmental Risk Reduction through Nursing Intervention and Education, University of Washington School of Nursing, 2006-present, PI: Patricia Butterfield

- Created and implemented a process evaluation for a RCT testing a home-based, public health nurse delivered, environmental risk reduction intervention
- Designed decision-making trees to be used in determining follow-up care for families with abnormal biomarker and household test results
- Manage ongoing human subjects' application and modification processes
- Manage quarterly Data Safety and Management Plan including reports to UW IRB

Research Associate, El Proyecto Bienestar (The Well Being Project)
University of Washington, School of Public Health and Community Medicine, 2002–present, PI: Matt Keifer
- Assist in writing and reviewing meeting minutes, planning meetings, and gathering relevant materials to assist in project facilitation and evaluation
- Assisted in creating a survey used to gather community members' perspectives of important occupational and environmental health issues
- Led strategic planning sessions

PUBLICATIONS

Ybarra, V. and Postma, J. (2006). El Proyecto Bienestar: An Authentic Community Based Participatory Research Partnership in the Yakima Valley. Partnership Perspectives, IV(1), 34-43.

Postma, J. (2006). Environmental justice: Implications for occupational health nurses. AAOHN Journal, 54(11), 489-498.

Postma, J. (2006). Addressing occupational health and safety issues among special populations – An innovative and strategic approach. AAOHN Journal, 54(4), 144-147.

Postma, J. (2005). Farmworkers and Pesticides: An Enduring Legacy. In González, D.J. and Oboler, S. (Eds.), Oxford Encyclopedia of Latinos and Latinas in the United States. New York: Oxford University Press.

PROFESSIONAL PRESENTATIONS

Postma, J. (2006). Evaluating power and participation in community-based participatory research: Evaluation results from El Proyecto Bienestar. Paper presented at the Annual Meeting of the American Public Health Association, Boston, MA.

Ybarra, V. and Postma, J. (2006). El Proyecto Bienestar: An Authentic Community Based Participatory Research Partnership in the Yakima Valley. Paper presented at the Community Campus Partnership for Health 9th Annual Conference, Minneapolis, MN.

Postma, J. (2005). El Proyecto Bienestar: A Community-based Health Project with Yakima Valley Agricultural Workers. Presented to members of the Dean's Club,

Seattle, WA.

UW Schools of Nursing and Public Health and Community Medicine, Seattle, WA (2005)
Presented "Ethics in Occupational and Environmental Health." Facilitated discussion on issues regarding genetic testing in the workplace.

Peer facilitator, Anatomy and Physiology, Pathophysiology
University of Michigan School of Nursing, Ann Arbor, MI (1996-1997)
Facilitated peer study groups for underrepresented nursing students.

CLINICAL EXPERIENCE as a REGISTERED NURSE

University of Washington Medical Center, Cardiothoracic Intensive Care Unit, Seattle, WA (2001–2002)
Mayo Medical Center, St. Mary's Hospital, Thoracic Intermediate Care Area, Rochester, MN (1999-2001)
Nature's Classroom, Camp Washington, Lakeside, CT (1998)

CERTIFICATION AND LICENSURE

Licensed Registered Nurse in Washington State (# RN00139101, Exp. Date: 3/26/07)
Basic Life Support for Healthcare Providers (Exp. Date: 9/07)

PROFESSIONAL AFFILIATIONS

Member, Inducted into Sigma Theta Tau honor society of nursing, (Inducted 1997)
Member, Campus-Community Partnerships for Health (2004–present)
Member, American Association of Occupational Health Nurses, member (2003-present)
Member, American Public Health Association, (2002-present)

PROFESSIONAL SERVICE

Member, PhD Curriculum Coordinating Committee, (2006-2007)
Reviewer, Progress in Community Health Partnerships: Research, Education, and Action, (2006)
Member, El Proyecto Bienestar Evaluation Committee, (2002-present)
Member, UW School of Nursing Diversity Task Force Committee, (2002–2004)
Member, Frances 5C Practice and Education Committee, (1999-2001)

COMMUNITY SERVICE ACTIVITIES

Member, Northwest Perennial Alliance, Seattle, WA (2003-present)
Conducted program evaluation

Serve on scholarship committee
Volunteer, Seattle Tilth Children's Garden, Seattle, WA (2001-2005)
Led earth steward tours for children ages 2-10
Volunteer, City of Seattle P-Patch program, Seattle, WA (2001-2004)
Helped maintain Picardo P-Patch.

RESEARCH INTERESTS

Intersection of occupational and environmental health nursing & environmental justice
Nursing interventions in the context of community-based participatory research
Sociocultural implications of genetic testing within vulnerable worker populations