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Photovoice: A Review of the Literature in Health and Public Health

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Although a growing number of projects have been implemented using the community-based participatory research method known as photovoice, no known systematic review of the literature on this approach has been conducted to date. This review draws on the peer-reviewed literature on photovoice in public health and related disciplines conducted before January 2008 to determine (a) what defines the photovoice process, (b) the outcomes associated with photovoice, and (c) how the level of community participation is related to photovoice processes and outcomes. In all, 37 unduplicated articles were identified and reviewed using a descriptive coding scheme and Viswanathan et al.'s quality of participation tool. Findings reveal no relationship between group size and quality of participation but a direct relationship between the latter and project duration as well as with getting to action. More participatory projects also were associated with long-standing relationships between the community and outside researcher partners and an intensive training component. Although vague descriptions of project evaluation practices and a lack of consistent reporting precluded hard conclusions, 60% of projects reported an action component. Particularly among highly participatory projects, photovoice appears to contribute to an enhanced understanding of community assets and needs and to empowerment.

Keywords: *photovoice; community-based participatory research; participatory action research; visual methods*

Since its development in the mid-1990s by Caroline Wang and her colleagues (Wang, 1999; Wang & Burris, 1994, 1997; Wang, Yi, Tao, & Carovano, 1998), the community-based participatory research (CBPR) method known as photovoice has received growing attention in health education and related fields. Concisely defined as “a process by which people can identify, represent, and enhance their community through a specific photographic technique” (Wang, Cash, & Powers, 2000, p. 82), photovoice was described in a seminal article (Wang & Burris, 1997) as having three goals:

(1) to enable people to record and reflect their community's strengths and concerns, (2) to promote critical dialogue and knowledge about important issues through large and small group discussion of photographs, and (3) to reach policymakers. (p. 369)

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As suggested in these goals, the photovoice method is highly consistent with core CBPR principles stressing empowerment and an emphasis on individual and community strengths, colearning, community capacity building, and balancing research and action (Israel, Schultz, Parker, & Becker, 1998).

Since its early application by Wang et al. in their work with rural village women in China's Yunnan province (Wang, 1999; Wang & Burris, 1994, 1997; Wang et al., 1998), photovoice has been used to address a diversity of public health and social justice concerns ranging from infectious disease epidemics (Grosselink & Myllykangas, 2007; Mamarly, McCright, & Roe, 2007) and chronic health problems (Allotey, Reidpath, Kouame, & Cummins, 2003; Oliffe & Bottorff, 2007) to political violence (Lykes, Blanche, & Hamber, 2003) and discrimination (Graziano, 2004). Similarly, the method has been implemented with age groups ranging from early adolescents (Wilson et al., 2007) to seniors (Baker & Wang, 2006; Killion & Wang, 2000) and with underserved communities in the United States, Asia, Africa, Latin America, and Europe (see Tables 1 to 3). Given this broad reach and scope, there is need for a critical review of the literature on photovoice to help examine the state of the art in this rapidly growing field.

To help address this need, this article builds on Viswanathan and her colleagues' (2004) review of more than 300 peer-reviewed articles meeting the criteria of CBPR to focus more deeply on photovoice. Utilizing core questions and instruments adopted from Viswanathan et al., the article addresses the following questions: (a) What defines the photovoice process? (b) How is community participation realized in photovoice partnerships and processes? and (c) What are the outcomes associated with photovoice? The article concludes by presenting implications for practice to maximize the scientific and community benefits of photovoice.

METHOD

Sampling

This review began with a broad search of peer-reviewed public health and related literature using the following keywords and search phrases: photovoice, photo novella, and participatory research AND photography OR photo. Databases used included ProQuest, PubMed/MEDLINE, ISI Web of Science, and CSA Illumina PsycINFO. All searches were limited to peer-reviewed journals and the English-language literature. All articles were published or in press before January 2008. All included articles or journals had a focus on health, broadly defined, as determined by the journals' title, vision, or mission or the articles' keywords, title, or abstract.

The initial search using these keywords resulted in 129 articles. After reviewing all abstracts and removing those that did not involve participatory research ($n = 52$), participant photography production ($n = 24$), and public health topics ($n = 7$), there was a remaining pool of 46 articles for consideration. Among them, most ($n = 23$) reported on descriptive research that used photovoice methodology. Many ($n = 14$) included evaluations of the processes and outcomes of photovoice projects, and close to one fourth ($n = 10$) evaluated or theoretically developed photovoice methodology itself. A few ($n = 4$) articles were literature reviews that included photovoice among their reviewed practices or methods. Within this sample, there were 37 unduplicated articles.

(text continues on page 437)

Table 1. Low Quality of Participation

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Allotey	2003	Descriptive research: How does the burden of disease differ according to gender, social, cultural, or environmental context within which conditions are experienced?	1.22	76	Paraplegic adults in Cameroon and Australia	7 months	Enhanced understanding of paraplegia in Cameroonian community to improve measurement of burden of disease
Baker	2006	Methodological evaluation: How can photovoice be an effective, unique, and innovative method of examining the pain experiences of clinic and nonclinic Black and White adults older than 50 years of age?	1.22	13	Senior citizens in Michigan	0.5 months	Enhanced understanding of seniors' experiences of pain to improve clinical services
LeClerc	2002	Descriptive research: How do elderly, community-dwelling women describe the issues, challenges, and struggles of everyday life in the first 6 to 8 weeks after hospital discharge?	1.22	4	Women senior citizens recently discharged from hospitals in the Toronto area	0.5 months	Enhanced understanding of seniors' needs and assets after hospital discharge to improve clinical services

(continued)

Table 1. (continued)

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Oliffe	2007	Methodological evaluation: What are the benefits of using photo elicitation to understand prostate cancer from the perspective of a small cohort of survivors?	1.22	19	Middle-aged Australian prostate cancer survivors	N/R	Enhanced understanding of men's experiences living with prostate cancer
Stevens	2006	Descriptive research: How do adolescent women who are parenting describe being healthy and define their health needs?	1.22	15	Diverse youth mothers in the Seattle area	N/R	Enhanced understanding of young mothers' needs and assets to improve health promotion programs
Grosselink	2007	Descriptive research: What are the leisure behaviors of older women living with HIV/AIDS in the United States?	1.33	4	Older women living with HIV/AIDS in the U.S. Midwest	N/R	Enhanced understanding of leisure behaviors of older women living with HIV/AIDS
Rhodes	2007	Descriptive research: What do photographs taken by Latino immigrant men tell us about local HIV prevention?	1.33	9	Latino immigrant men in Winston-Salem, North Carolina	N/R	Enhanced understanding of Latino men's needs and assets to improve HIV prevention services
Killion	2000	Descriptive research: What issues need to be considered to improve the feasibility of establishing house-sharing arrangements for mutual	1.40	5	African American homeless women and women seniors in a midwestern city	7 months	Enhanced understanding of African American women's needs and assets to improve effectiveness of housing intervention

(continued)

Table 1. (continued)

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
		assistance between young and elderly people African Americans?					
Booth	2003	Descriptive research: What is the collective and individual experience of mothers with learning difficulties?	1.44	6-16	Mothers with learning disabilities in Sheffield England	6 months	Enhanced understanding of needs and assets of mothers with learning difficulties
Hussey	2006	Descriptive research: How do female to male transsexuals experience accessing health care?	1.44	5	Female to male transsexual adults in the San Francisco, California	1.75 months	Enhanced understanding of experiences of female to male transsexuals to improve health care
Levin	2007	Descriptive research: What are the daily lives of people living with stroke like? How can you provide stroke victims with the means for engagement?	1.60	5	Stroke survivors in Chicago	1.25 months	Engaged stroke survivors in action; enhanced understanding of stroke survivors' needs and assets to improve health and social services

NOTE: N/R = not reported.

Table 2. Medium Quality of Participation

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Mamary	2007	Descriptive research: What are the perceptions of non-gay-identified African American men who have sex with men (MSM) regarding the social, cultural, community, and family influences associated with their HIV risk?	1.67	7	African American non-gay-identifying MSM in the San Francisco area	5 months	Engaged African American MSM in action and advocacy; enhanced understanding of their needs and assets to improve HIV prevention services; facilitated individual empowerment
Schwartz	2007	Intervention evaluation and descriptive research: How was the project implemented? What did we learn? What are Latino immigrants' opinions on accessing family planning services in our city?	1.70	7-10	Newly arrived Mexican migrant adults in Missouri college town	1.25 months	Engaged Mexican immigrants in action and advocacy; Enhanced understanding of their needs and assets to improve family planning services
McAllister	2005	Descriptive research: What are the perspectives of low-income and minority parents on school readiness?	1.78	7	Low-income women with young children, mostly African American and some White, in Pittsburgh	N/R	Enhanced understanding of mothers' perspectives, needs and assets to improve school readiness programs
Wang	2000	Intervention evaluation: What is the experience of homeless photovoice participants in Ann Arbor?	1.80	11	Diverse homeless adults in Ann Arbor	1 mo	Engaged homeless adults in action and advocacy; Enhanced understanding of their needs and assets to improve health and social service programs

(continued)

Table 2. (continued)

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Wang	2004b	Methodological evaluation and descriptive research: How can photovoice be used by maternal and child health program managers to enhance assessment and program planning? How does photovoice enable community people to record, reflect, and communicate maternal and child health assets and concerns?	1.80	60	Youth and adults, mostly African American, some White, few Hispanic, in Contra Costa County, California	5 months	Engaged community in action and advocacy; Enhanced understanding of community needs and assets among program managers to improve maternal and child health services
Fournier	2007	Descriptive research: What is the experience of Ugandan nurses caring for individuals with HIV illness?	1.89	12	Nurses in Uganda	3 months	Enhanced understanding of Ugandan nurses' needs and assets to improve health care provided to HIV patients
Lopez	2005	Descriptive research: How do African American breast cancer survivors perceive and address their quality of life within their own social context? What is a conceptual model for survivorship quality of life?	1.89	13	Black breast cancer survivors in poor and rural North Carolina	7 months	Engaged African American breast cancer survivors in action and advocacy; enhanced understanding of their needs and assets to improve health and social services

(continued)

Table 2. (continued)

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Wang	1994	Methodological development: What are the conceptual roots of photo novella theory and practice?	1.90	62	Ethically diverse rural Chinese women in Yunnan, China	12 months	Engaged rural Chinese women in action and advocacy; enhanced understanding of their needs and assets to improve reproductive health programs; facilitated individual empowerment
Wang	1997	Methodological development and intervention evaluation: What is the photovoice method? How does photovoice contribute to participatory needs assessment?	Same as above	Same as above	Same as above	Same as above	Enhanced understanding of rural Chinese women's needs and assets to improve reproductive health programs
Wang	1998	Methodological evaluation: How does photovoice succeed or fail in fulfilling its participatory aims? With whom does power reside at each stage of research?	Same as above	Same as above	Same as above	Same as above	Engaged Chinese rural women and health organizations in action and advocacy to improve reproductive health
Graziano	2004	Descriptive research: How do Black gay men and lesbians view themselves in relation to White gay men and lesbians in South Africa?	2.10	7	Gay and lesbian adults in South Africa	3 months	Engaged gays and lesbians in action to address discrimination; enhanced understanding of their needs and assets; facilitated individual empowerment

(continued)

Table 2. (continued)

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Side	2005	Intervention evaluation: What was the impact of photovoice on a cross-community reconciliation project focused on acknowledging the contributions of women in Northern Ireland?	2.10	12	Protestant and Catholic adult women in rural Northern Ireland	2 months	Engaged Protestant and Catholic women in action; facilitated individual empowerment
Carlson	2006	Intervention evaluation: How was a photovoice project in a lower income, African American urban community able to generate a social process that resulted in active grassroots participation in a community-campus partnership?	2.20	5-24	Underserved African American community in Texas	1.25 months	Engaged African Americans in action and advocacy to improve health; facilitated individual empowerment
Short	2006	Intervention evaluation and review: What are some simple and effective methods for preventing HIV infection that are available and affordable on under \$2 per day?	2.20	N/R	HIV-vulnerable and low-income teens in Botswana	N/R	Engaged African youth in action to engage in HIV/AIDS education and prevention among other youth
Wang	2004c	Methodological evaluation and descriptive research: How can photovoice improve medical education? What situations in health care	2.20	N/R	Medical students in Ann Arbor, Michigan	N/R	Engaged medical students in action and advocacy to improve patient care and medical education

(continued)

Table 2. (continued)

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Wilson	2006	delivery suggest policy changes with a potential to improve patient care or medical education? Intervention evaluation: How did Youth Empowerment Strategies (YES!) promote social action and civic participation among underserved elementary and middle school youth?	2.20	122	Diverse adolescents in West Contra Costa County, CA	9 months	Engaged adolescents in action to improve school conditions; facilitated individual empowerment
Wilson	2007	Methodological evaluation: How is photovoice useful and effective in engaging early adolescents in critical thinking for social action?	Same as above	Same as above	Same as above	Same as above	Engaged adolescents in action to improve school conditions
Willson	2006	Descriptive research: What are poor women's lives like?	2.22	16	Low-income women in Winnipeg and Saskatoon, Canada	N/R	Engaged women in action and advocacy to improve conditions of low-income women; enhanced understanding of their needs and assets
Streng	2004	Descriptive research: How does immigration influence the quality of life of Latino high school students?	2.33	8	Latino immigrant youth, mostly boys, in rural North Carolina	12 months	Engaged Latino youth in action to improve school conditions; enhanced understanding of their needs and assets; facilitated individual empowerment

NOTE: N/R = not reported.

Table 3. High Quality of Participation

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Goodhart	2006	Intervention evaluation: What was the process and impact of a photovoice project implemented with students at Rutgers University?	2.40	N/R	College students at Rutgers University in New Jersey	0.75 months	Engaged college students in action and advocacy to improve student health services and policies; enhanced understanding of their needs and assets; facilitated individual empowerment
Bader	2007	Intervention evaluation: How effective was the six-phase global youth voices model for engaging youth in community health promotion in the Middle East?	2.50	20	Bedouin youth in Israel	9 months	Engaged Bedouin youth in action to promote community health; facilitated individual empowerment
Williams	2003	Intervention evaluation: What was the meaning of a photovoice project with Guatemalan women and feminist researchers?	2.50	20	Mayan village women in Guatemala	N/R	N/R: Process evaluation
Foster-Fishman	2005	Intervention evaluation: What is the impact of participating in photovoice effort? How does photovoice foster impacts?	2.70	29	Diverse adult and youth in Battle Creek, Michigan	1.25 months	Engaged diverse community members in action and advocacy to improve city conditions; facilitated individual empowerment

(continued)

Table 3. (continued)

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Nowell	2006	Descriptive research: What meaning and significance do residents ascribe to the physical conditions of their neighborhoods and community?	Same as above	Same as above	Same as above	Same as above	Enhance understanding of citywide needs and assets to improve city conditions
Hergenrather	2006	Descriptive research: What are the influences on the employment-seeking behavior of PLWHA?	2.78	11	Mostly Black people living with HIV/AIDS in Washington, D.C.	2.25 months	Engaged Black people living with HIV/AIDS in action to improve employment conditions; enhanced understanding of their needs and assets
Rhodes	2007	Descriptive research: What are perspectives of poor people living with HIV/AIDS in the South about their condition?	2.80	15	Low-income African American adults living with HIV/AIDS in North Carolina	22 months	Engaged people living with HIV/AIDS in action to improve health services; enhanced understanding of their needs and assets; facilitated individual empowerment
Jurkowski	2007	Intervention evaluation: What is the process and impact of photovoice with people with intellectual disabilities?	2.80	4	Latino adults with intellectual disabilities in Chicago	3 months	Engaged Latinos with intellectual disabilities in action and advocacy to improve health programs; enhanced understanding of their needs and assets

(continued)

Table 3. (continued)

First Author	Year	Purpose and Research Question(s)	Mean Participation Score	N	Participant Description	Duration	Outcomes
Lykes	2003	Intervention evaluation: How does the use of participatory photographic methods impact communities coping with historical violence in Guatemala and South Africa?	2.80	20	Women in Guatemala and adults in South Africa	Many years, exact N/R	Engaged women in action and advocacy to promote reconciliation of historical violence; facilitated individual empowerment
Wang	2004a	Methodological evaluation and descriptive research: What are the community's assets and concerns? Are there benefits to including policy makers in photovoice efforts?	2.80	41	Adults and youth in Flint, Michigan	5 months	Engaged diverse community members in action and advocacy to improve health policy; enhanced understanding of city needs and assets among policy makers
Wang	2001	Methodological evaluation: How can photovoice practitioners ethically reduce the risk to participants and enhance the benefits to participants?	Same as above	Same as above	Same as above	Same as above	N/A
Strack	2004	Intervention evaluation: How effective is the program and curriculum for engaging youth in the photovoice process?	3.00	14	Low-income youth, mostly Black and White, in Baltimore	3 months	Engaged youth in action and advocacy to improve school and neighborhood conditions; facilitated individual empowerment

NOTE: PLWHA = people living with HIV/AIDS.

Analysis

Analysis began with the iterative development of a descriptive coding scheme (Strauss & Corbin, 1990), including such categories as research question, recruitment, study design and sampling, participant characteristics (e.g., youth, women of color), data collection and analysis, findings, dissemination, advocacy and action, outcomes, and limitations. Further coding was then undertaken for indicators of enhanced research quality through photovoice, capacity building, sustainability, and so on as well as for implications or lessons learned (see Tables 1 to 3). Each article was systematically reviewed by labeling all text corresponding to categories including the above. A detailed data matrix was produced using an Excel spreadsheet that described the coded text within articles, facilitating a summary of each article and comparison across articles. This matrix supported a descriptive understanding of photovoice partnerships and processes and illuminated evidence and counterevidence that photovoice appeared to result in its intended outcomes.

Viswanathan et al.'s (2004) quality of participation measurement tool was used to examine community participation. This tool rated the level of community participation on 10 aspects of CBPR projects, including selection of research question, proposal development, financial responsibility for grant funds, study design, recruitment and retention of study participants, measurement instruments and data collection, intervention development and implementation, interpretation of findings, dissemination of findings, and application of findings to health concern identified. Each of these aspects was rated on a 3-point scale, with 1 signifying insufficient information or poor participation, 2 signifying fair participation, and 3 signifying good participation. The mean of these scores produced the overall quality of participation rating, used to divide articles into low-, medium-, and high-participation categories, as in Tables 1 to 3.

Limitations

This review suffered from several limitations. First, the exclusion of articles from non-peer-reviewed sources may have eliminated some important and influential reports as well as book chapters devoted to exploring this approach (Israel et al., 2005; Minkler & Wallerstein, 2008) and several relevant master's and doctoral theses. Limiting the search to the health-related literature and to articles published in English may well have missed some important contributions in other languages and in related fields such as social work, where the method has also been used. These limitations appeared justified, however, given the review's aims of exploring (a) the historical foundations and ongoing practice of photovoice and (b) the potential of this method for future application within the public health domain, by focusing on studies that met the standards of peer review.

Publication bias is the limitation of most concern. Studies that result in limited or negative findings are less likely to be published, resulting in a sample of studies that are biased toward more significant findings and more effective interventions. Although an initial review of the literature reveals a broad range in study quality and outcomes, it nevertheless is important to consider the effects of this bias on findings.

Although several photovoice practitioners helped to develop this review, a final limitation is that the analysis itself was primarily the work of a single author. Coding of the literature consequently did not include the comparing or reconciling of coding or the calculation of interrater reliability. To improve internal reliability, however, the

research was embedded within theories, scales, and concepts developed by a multiplicity of researchers.

FINDINGS

Seminal Early Research

The practice of photovoice in public health continues to be heavily influenced by Wang and colleagues' early work (Wang, 1999; Wang & Burris, 1994, 1997; Wang et al., 1998). These original works were characterized by project initiation and facilitation by researchers, further development and refinement by leaders from community organizations, and then participation of community members during project implementation stages. Within this structure, community participants did not typically share decision-making power on the overall focus of the research project (e.g., reproductive health), research design, or selection of photovoice methodology. However, their leadership often contributed to key decisions once the project was under way, especially broadening the focus of the research question to include issues (e.g., child care and neighborhood violence) that often are beyond the purview of traditional public health research.

These early projects typically included a brief training on photography skills, photovoice ethics, and safety. Projects then tended to involve an iterative cycle of photo assignments, collecting photographs, and engaging in critical group discussion of a selection of photographs. These iterations put more control of the research process in the hands of community members, who identified issues that arose in their photography and discussed them using the SHOWeD technique (Shaffer, 1983). Using the SHOWeD mnemonic, discussion facilitators would ask, (a) What do you See here? (b) What's really Happening here? (c) How does this relate to Our lives? (d) Why does this problem, concern, or strength Exist? and (e) what can we Do about it? This group discussion technique is based on Paolo Freire's (1973) conception of praxis and is meant to facilitate the empowerment of community participants.

Next, Wang and colleagues encouraged the use of participatory visual analysis, a process that they pioneered. As Wang and Burris (1997) described, participants select a set of "photographs that most accurately reflect community needs and assets," contextualize the photographs by "telling stories about what the photographs mean," and then codify the "issues, themes, or theories that emerge" (p. 380). Finally, early photovoice projects by Wang and her colleagues emphasized action. Photos and accompanying narratives depicting community needs and assets were typically shared with influential local leaders. These exhibits tended to be well attended and provided an opportunity for participants to directly communicate with influential people, to creatively express their concerns, and to become further engaged in efforts to address these concerns.

Undertaken in rural China and urban areas within the United States, these first studies suggested that photovoice might offer a useful new approach for public health research and practice, but this assertion was yet to be put to the test. Building on this foundational literature, this review describes how photovoice processes have continued to develop to date, how these processes have embodied the ideal of participation, and what outcomes or effects there have been. The literature reviewed and these key attributes are described in Tables 1 to 3.

The Photovoice Process

Partnership Building and Community Participation. As previously described, Viswanathan et al.'s (2004) quality of participation scale was used to determine each project's average rating from 1.00 to 3.00, where 1 is low and 3 is high participation. The level of participation varied broadly across a spectrum.

Within the studies reviewed, 1,006 community participants had engaged in photovoice efforts, ranging from 4 older women living with HIV in the Midwest (Grosselink & Myllykangas, 2007) to 122 at-risk adolescents in California (Wilson et al., 2007), with a median project size of 13 community participants. Although it seemed probable that quality of participation might vary according to the number of participants, no relationship was found between group size and quality of participation.

Perhaps reflecting in part its roots in feminist research (Wang & Burris, 1997), most photovoice projects (78%) reported engaging majority-female groups. Participants included a diverse range of ages, races/ethnicities, and geographical locations. Among the 26 articles that reported duration of community participation, photovoice projects ranged from 2 weeks to several years, with a median of 3 months.

Across the studies examined, the quality of participation appeared to increase with project duration. In all, 11 (30%) projects engaged community participants at a low level, 1.00 to 1.66 on the quality of participation scale. These projects, with a median duration of 1.75 months, tended to limit community participation to photographic data collection and photo-elicited interviews.

For example, in their assessment of the technical and social assumptions of disability adjusted life years, Allotey et al. (2003) gave disposable cameras to 76 paraplegic people from Australia and Cameroon and requested that they "take pictures that would provide insight into the factors that created the reality of their everyday life" (p. 951). The individual choice involved in taking pictures was the only evidence of participant or community decision making in this project. Projects of this sort tended to be described by authors as pilot or exploratory studies. As such, they did not assess the impact of photovoice on participants or communities.

Among these low-participation studies, most outside researchers met with participants only twice during that time: once to introduce the project and then once to collect photographs and photo-elicited interviews or discussions. Participants tended to have minimal interaction with researchers or each other. Even dialoguing with other project participants about the photographs and their meanings—a core part of photovoice methodology—was omitted in these more cursory projects.

In all, 16 (43%) photovoice projects demonstrated a medium quality of participation, ranging from 1.67 to 2.33. In these projects, outside researchers and community participants tended to work together on studies that were most frequently designed, initiated, and managed by researchers. This level of participation was well exemplified by Wang et al.'s Yunnan Women's Reproductive Health and Development Program project. In their evaluation of the project (Wang et al., 1998), the authors offered one of the most detailed evaluations of community participation in a photovoice project to date. They reported vastly different levels of political, social, and economic power, privilege, and status among the diverse partners engaged in the project. Partner participation varied by stage in the process and by the specific skills and needs that each group brought.

Wang and her colleagues argued that varied levels of participation were necessary to maximize partnership efficiency and ethically distribute the costs and benefits associated

with participation. Full participation from community members was central to some stages of the Yunnan project, including taking pictures, selecting photographs for discussion, contextualizing and storytelling, codifying photographs, disseminating findings through community presentations, and conducting project evaluation. However, rural women were notably not engaged in the initial conceptualization, development, and administration of the project. Furthermore, and likely reflecting the broader Chinese sociopolitical context in which this study took place, participants did not take part in advocating for policy change.

Across the literature, projects with medium quality of participation scores tended to be published as descriptive research (47%) and less often as community interventions (37%). Those that self-described as community interventions, moreover, still tended to primarily provide process descriptions with limited discussion of findings or outcomes. Projects in this medium participation category had more participants on average than did projects ranked either low or high on quality of participation. The median project duration was 4 months, during which time facilitators and participants met more than twice to clarify photo assignments, discuss pictures, and engage in action. Action commonly took the form of organizing a public photo exhibit.

On the far end of the participatory spectrum, 10 studies (27%) had high quality of participation scores, 2.34 to 3.00. The photovoice projects that engaged participants at this level tended to be born from ongoing partnerships with communities, had a longer than average duration, reported an emphasis on training and community capacity building, and engaged in action. For example, Lykes et al. (2003) had been working with rural Guatemalan women for many years before they partnered to initiate a photovoice project focusing on truth and reconciliation. Researchers served as facilitators and technical advisors to community leaders, who led every stage of the project. The authors explained that high levels of participation in this project required long-term dedication to building local capacity for research and documentary photography among rural women who had little or no formal education. Sharing power with rural Mayan women meant not just sharing the tasks of implementation and ownership but also developing a shared basis of knowledge and expertise. To this end, community participants “appropriated the skills and techniques of social scientific research in the service of speaking out about past horrors to construct new options toward a better future” (p. 84).

In reviewing the photovoice literature, it is apparent that photovoice practitioners continue to grapple with the ideal of community participation in all of the stages of the research process. The following section explores the processes involved in photovoice and how participation has been achieved and missed, with particular attention to (a) facilitating photovoice training, (b) researching and documenting particular aspects of community through participatory photography, and (c) engaging in individual or group photo-elicited discussion.

Training. As Wang and colleagues (1997) noted, photovoice “entrusts cameras to the hands of people to enable them to act as recorders” (p. 369). Most photovoice projects included training to build basic documentary photography skills and knowledge, but great variability was observed in the approach to and scope of training. Projects with low community participation frequently included little or no training. Among projects that scored in the middle range (e.g., Wang et al.’s Yunnan project), a 1- or 2-day basic training on ethics and technical approaches to photography tended to be offered. On the far end of the continuum, the most participatory projects tended to include training on ethics and safety as well as “professional” training on photography

and research, sometimes extending over several weeks (cf. Wilson, Minkler, Dasho, Wallerstein, & Martin, 2006).

Although many studies (24%) were vague about training, five studies (14%) appeared not to include any formal training, a decision that was sometimes intentional and reflective of a sociological or anthropological approach to visual methods. For example, in explaining their purposeful decision to omit formalized training in their “naturalistic” work, Gosselink and Myllykangas (2007) provided a disposable camera and logbook to four elderly women living with HIV/AIDS, asking each to capture “what leisure meant to her both pre- and post-HIV/AIDS.” As the investigators went on to comment, “At no point was an operational definition of leisure offered so that for each participant, the meaning of leisure was based on her perspective” (pp. 7-8). In this case, the investigators appeared to prefer a minimum of researcher interference with the participants’ naturalistic style of expression and interpretation of the key theme. Because the photographs were intended to be kept private and confidential rather than displayed in a final exhibition or in the research article itself, the photographs did not need to communicate to others but simply to serve as raw data for qualitative analysis.

Harrison’s (2002) literature review on the use of images in narrative inquiry further describes a rationale behind including no training. Visual methodologists, she explained, assume that the way in which untrained photographers take pictures (i.e., personal or everyday photography) is in itself a rich source of data on cultural and social constructions. Given this, introducing photography training or insisting on a certain kind of photography might alter participants’ practices of representation, limiting the researchers’ ability to make observations about this practice and its reflection on the phenomena of inquiry.

Despite this argument, the majority of photovoice projects (62%) included some basic training. Among these, half (12) explicitly reported including photography training plus a brief training on ethics and safety. Modeling this practice in Yunnan, Wang and colleagues (Wang & Burris, 1997) provided rural women with a brief introduction to photography techniques, ethics, power, and safety. The authors argued that participants should be trained briefly at first and then continue to develop their skills and understanding through an iterative cycle of doing and discussing.

In contrast, projects with the highest levels of participation demonstrated an intensive approach to community capacity building and training. Lykes et al. (2003), for instance, involved all participants in professional photography training, with a core group trained “to assume all roles within the research process” (p. 84), gaining computer skills, becoming data recorders and analysts, and learning how to balance the financial accounts of their projects. Through their training, “The 20 women who co-developed this project are the first rural Ixil and K’iche’ women to become ‘professional photographers,’ and several have gone on to write grant proposals to support new economic development, education, and mental health initiatives” (p. 84).

Research and Documentation. The photovoice process is often valued for its ability to uncover rich descriptive information. As a methodology, it is almost exclusively used to answer descriptive research questions, such as what the collective and individual experience of mothers with learning disabilities in Sheffield, England is (Booth & Booth, 2003) and what poor women’s lives are like in rural Canada (Willson, Green, Haworth-Brockman, & Rapaport Beck, 2006).

Photovoice has been widely adapted to fit the particular needs of research and documentation projects. It produces several types of data, from discussion and interview

transcripts to photographic images, enabling data triangulation. The more participatory projects tended to emphasize participatory analysis, but otherwise data collection methods tended to be similar across the varying levels of participation.

Although all of the articles reviewed discussed photovoice as involving the taking of photographs to document individual or community realities, there was less consistency in subsequent steps in the process or in the treatment of photographic data. Most typically, the main source of data used to answer research questions was not the photographs themselves but rather transcripts from photo-elicited group discussions or individual interviews. For example, in a study of oppression and resilience among a small group of gay and lesbian Blacks in postapartheid South Africa, Graziano (2004) and colleagues complemented the photography phase of the project with an ongoing critical dialogue about the photos, individually and within the group. The researchers engaged participants in the initial stages of analysis and provide rich descriptive information about findings, but Graziano did not report the methods used to complete the analysis process, and there is no indication that the photos were analyzed using visual methods.

Graziano's (2004) study is typical of those reviewed in that the outside researchers typically do not report analyzing the photographs themselves. For Wang and Burris (1994), this choice is rooted in feminist theory, critical pedagogy, and action research. As explained by Wang and Pies (2004) in their study of family, maternal, and child health in California,

PV is not intended to be a methodology in which an entire body of visual data is exhaustively analyzed in the social scientific sense. . . . As a participatory methodology, photovoice requires a new framework and paradigm in which participants drive the analysis—from the selection of their own photographs that they feel are most important, or simply like best, to the “decoding” or descriptive interpretation of the images. (pp. 100-101)

Like this study by Wang and Pies, all of the studies that report using a participatory approach to analysis have medium or high participation scores.

Nearly all studies reviewed used two or more sources of data to triangulate the findings. For example, in Nowell, Berkowitz, Deacon, and Foster-Fishman's (2006) study of the meaning and significance that residents of Battle Creek, Michigan, ascribe to the physical conditions of their neighborhood, the authors reported triangulating several data sources, including participant photographs, transcripts of participant verbal reflections, participants' written reflections, and transcripts of group discussions of photographs.

In a few cases (Baker & Wang, 2006; Jurkowski & Paul-Ward, 2007; Leclerc, Wells, Craig, & Wilson, 2002; McAllister, Wilson, Green, & Baldwin, 2005; Oliffe & Bottorff, 2007), photovoice was used by researchers with a sample of participants from a larger study to gain in-depth insight into the everyday lives of a few research participants. Community participation in these studies tended to be low. In McAllister et al.'s (2005) assessment of the perspectives of low-income and minority parents on school readiness in Pittsburgh, the team conducted 150 qualitative interviews with parents and then selected a sample of 7 participants for in-depth study using ethnographic methods and photovoice. Although working within the constraints of an established research project limited participants' ability to share decision-making power, the researchers argued that this approach to photovoice enabled them to “learn from culturally diverse and economically stressed community members . . . and actively ‘listen’ to parents and other community members in order to develop a better understanding of their perspectives on issues such as school-readiness” (p. 623).

Photo-Elicited Discussion. The vast majority of projects (85%) described engaging participants in at least one group discussion based on photos. During discussions, photographers typically selected a subset of pictures and a facilitator engaged the group in discussion using SHOWeD or a similar acronym to elicit responses to questions about the photographs and form a bridge to subsequent action. Among those studies that engaged in discussion, about one third argued that these techniques facilitated the Freirian notion of critical consciousness (Freire, 1973), a consciousness based on critical reflection through dialogue and action.

Photovoice discussions varied in frequency and in style. The more participatory projects tended to engage community photographers in a cycle of photography or documentation and discussion over several months. For example, Fournier, Kipp, Mill, and Walusimbi (2007) used the SHOWeD technique during biweekly 2-hour sessions over 3 months to engage 12 Ugandan nurse participants in an ongoing critical dialogue about the challenges involved in caring for individuals with HIV/AIDS. Fournier and colleagues referred to this dialogue as “consciousness-raising,” stating, “It involves the recognition of social, political, economic, and personal constraints on freedom and provides the forum in which to take action to challenge those constraints” (p. 258). The Youth Empowerment Strategies (YES!) Project in and near Richmond, California, similarly involved small groups of its 122 youth participants in a cyclical process of taking pictures, doing “free writes” expressing their personal reflections on their photos, and engaging in group dialogue and analysis using the SHOWeD acronym. The cycle was repeated numerous times over several months, with all but one of the small groups eventually using the pictures and discussions as the basis of social action projects (Wilson et al., 2006; Wilson et al., 2007).

Like the two studies just described, the majority of photovoice articles suggested that engaging participants in critical dialogue had a double yield: producing valuable research data in the form of discussion transcripts and serving as an empowerment intervention that had immediate benefits for research participants and their communities (see outcomes below).

Several projects (15%), however, all with low levels of participation, did not report engaging participants in group discussion. Baker and Wang (2006), for example, modified the photovoice method to explore the experience of chronic pain with 13 older adults in Michigan. The authors recruited participants from a larger study of pain, engaging them in an orientation, 2 weeks of personal photography, and an exit interview. The participants had no direct contact with each other during the study and never discussed photographs with one another. Instead, researchers interviewed participants one-on-one, using photo-elicitation techniques to explore the contexts and meaning of their pictures.

Outcomes

Although the photovoice articles reviewed focused on reporting *processes*, most (in particular the 31% that reported intervention evaluation findings) included some description of outcomes. These in turn tended to fall into three categories: (a) enhanced community engagement in action and advocacy, (b) improved understanding of community needs and assets, which in turn could have community or public health benefits, and (c) increased individual empowerment. These outcomes were reported consistently across varying photovoice projects, from efforts in collaboration with a diverse range of partners and community participants, and from studies using a multiplicity of often triangulated methods.

Action and Advocacy. The majority (60%) of projects reviewed culminated in action to address issues identified through community documentation and discussion, and a direct relationship was observed between level of participation and getting to action. Only 2 out of the 11 (18%) low-participation projects thus reported culminating in action, compared to 14 out of 16 (86%) among the medium- and 9 out of 10 (90%) among the high-participation projects.

Among the projects that did include an action phase, 96% organized public photo exhibitions to share their photographs and findings with the broader community, often including policy makers and other influential leaders. Wang and her colleagues (2000) for example, worked with homeless photovoice participants in Ann Arbor, Michigan, to hold several forums and showings of the latter's powerful words and pictures. As they noted,

First, participants snapped photographs and wrote descriptive text for newspaper articles. Second, participants' photographs and captions were exhibited locally at a downtown gallery. . . . Finally, several hundred people, including policy makers, journalists, researchers, public health graduate students, and the public, came to the city's largest theater where photographers showed their slides with accompanying narrations and spoke to an audience of present and future community leaders. (p. 85)

This emphasis on involving policy makers and other community leaders in photovoice projects has been a part of Wang and colleagues' ongoing work and recommendations for best practices (Wang, Morrel-Samuels, & Hutchison, 2004; Wang & Pies, 2004).

In addition to photo exhibits, five of the action-oriented projects (21%) culminated in participant-led action initiatives inspired by photovoice findings. In their evaluation of a youth empowerment intervention with 122 youth in Contra Costa County, California, Wilson et al. (2007) described 12 social action projects, 8 of which directly resulted from the assets and issues identified through photovoice discussions. These included youth-led awareness campaigns, the use of photovoice posters along with petitions to protest loss of sports and teachers because of fiscal cutbacks, and the writing of a successful request to a school district official to get a dangerous shed on campus closed down (Wilson et al., 2006; Wilson et al., 2007).

Although action is a typical outcome of photovoice projects, it is important to acknowledge that 13 (35%) photovoice projects did not report engaging in this step. These projects tended to have a low quality of participation. A few (4) indicated that this decision was spurred by the need to protect the privacy of vulnerable participants, such as female-to-male transgender people (Hussey, 2006) or undocumented immigrants (Rhodes & Hergenrather, 2007).

Several authors argued that photovoice can have an impact on policy because of its tendency to mobilize communities to action. Yet none of the photovoice articles reviewed adequately discussed or evaluated the impacts of photovoice, if any, on the policy level—a challenge made difficult in part by the complex nature of policy making and the long time frame typically involved.

Enhanced Understanding of Community Needs and Assets. A second major reported outcome of photovoice was improving the understanding of community needs and assets among photovoice partners, service providers, local policy makers and other influential community members, and the broader community. Practitioners claimed

that this is made possible, first and foremost, by the methodology's unique capacity to engage hard-to-reach groups and to elicit open and honest conversation.

The literature provides several examples of how this happens. In their highly participatory project with Latino adults with intellectual disabilities, Jurkowski and Paul-Ward (2007) noted that research and health promotion interventions tend to overlook people with such mental challenges because they are "often regarded as incapable of expressing their own health needs & incapable of learning health-promoting skills" (p. 359). Although the researchers had already engaged these participants in focus group discussion, they found that photovoice elicited rich descriptive information about participants' everyday lives. Researchers used this information to improve health promotion programs for people with intellectual disabilities in their community.

Photovoice projects have also helped establish trusting relationships among researchers, practitioners, and members of underserved communities of color in the United States, where public health researchers have often encountered resistance and mistrust (Gamble, 1997; Thomas & Crouse Quinn, 2001; Wasserman, Flannery, & Clair, 2007). In their medium-level participatory study, Streng et al. (2004) engaged Latino immigrant youth to capture an in-depth and critical assessment of the challenges they face and the ways they overcome barriers in high school. The youth exhibited their photographs and shared them with local leaders, policy makers, service providers, school administration, teachers, and counselors to improve the understanding of their needs and assets among influential people in their community. Streng et al. noted that the method's emphasis on shared decision making and power sharing allowed group discussions to go beyond what Scott (1985) called "public discourse" to obtain information about "hidden transcripts," the often deeply critical cultural and political discourse that takes place outside the venues normally open to members of other groups.

Projects at the low end of the participatory spectrum still reported a unique ability to gather in-depth descriptive information from hard-to-access groups. In their photovoice project with men diagnosed with prostate cancer, Oliffe and Bottorff (2007) thus reported that "the men consistently revealed a great deal about their prostate cancer experiences and lives, both in and through their photographs" (p. 854).

Although these less participatory projects captured participants' needs, assets, and experiences, most gave no indication that these results were shared through exhibits or other means. In both the study of men with prostate cancer study and the earlier mentioned study of older patients with chronic pain (Baker & Wang, 2006), for example, the potential to directly improve understanding and thus improve services was suggested; however, there was no evidence that it did.

Individual Empowerment. Among photovoice articles, reports of individual empowerment outcomes increased with participation scores. None of the 11 low-participation, 7 of 16 (44%) medium-participation, and 6 of 10 (60%) high-participation projects reported facilitating increased individual empowerment. As suggested in Figure 1, a positive relationship thus was hypothesized between empowerment and the processes of partnership and community participation, intensive training, and, in particular, the iterative cycle of research, discussion, and action.

The two most thorough evaluations of photovoice impacts, by Foster-Fishman, Nowell, and Deacon (2005) and Carlson, Engebretson, and Chamberlain (2006), respectively, explored these relationships. In a study that received a high overall participation score, Foster-Fishman et al. interviewed the participants of a Michigan

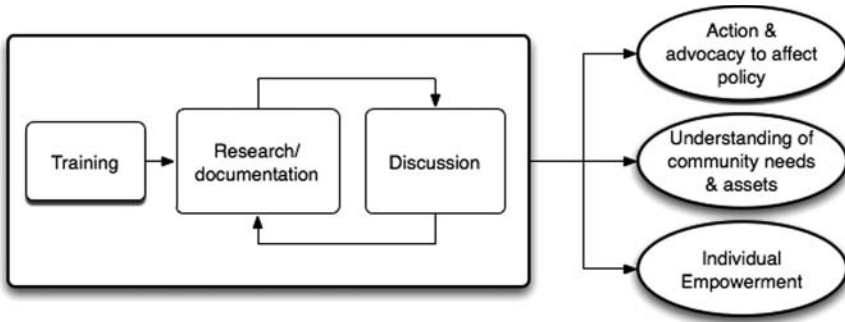


Figure 1. Photovoice impact model.

photovoice project and found that two iterative processes in particular facilitated empowerment: documenting community strengths and concerns using photography and engaging in critical dialogue with other community members. In their breakdown of the concept of empowerment, the investigators explained that “impacts ranged from an increased sense of control over their own lives to the emergence of the kinds of awareness, relationships, and efficacy supportive of participants becoming community change agents” (p. 275).

Carlson et al. (2006) used a retrospective ethnographic analysis to evaluate the impact of a photovoice project with a medium participation score in a lower income, African American urban community. The researchers analyzed dozens of photographs, participant stories, group discussion transcripts, and facilitator journals. They found that the photovoice project was able to generate a social process of critical consciousness and active grassroots participation, thereby facilitating empowerment, by providing multiple opportunities for reflection, critical thinking, and then active engagement. The authors identified these opportunities as “deciding what to photograph, developing a story of why it was important, experiencing the entirety of the group’s creation, and, finally, participating in a group dialogue of introspection” (p. 842). The fact that the group joined a community–campus partnership and community civic clubs during the closing stages of the photovoice study was cited as illustrative of the ways in which this more empowered group was now attempting to contribute to improved community health and well-being. Although the assessment would have benefitted from collecting additional interviews, thereby enabling an analysis of more long-term impacts, the retrospective data were helpful in addressing the evaluation questions.

In searching for counterevidence within the literature, further support emerged for these relationships. There were several studies that did not engage participants in an iterative process of research or documentation and discussion (Allotey et al., 2003; Baker & Wang, 2006; Grosselink & Myllykangas, 2007; Leclerc et al., 2002; McAllister, Green, & Terry, 2003; Stevens, 2006). Among these studies, there were no reports of enhanced empowerment, sense of control, or critical consciousness. One such project, led by Grosselink and Myllykangas (2007), with participation from four people living with HIV/AIDS, included a report of the status of their participants 2 years after the conclusion of the study. The investigators found them in a state of distinct disempowerment, in their increasing dependence, seclusion, and disengagement from communities.

DISCUSSION

The practice of photovoice is growing rapidly and the photovoice literature is proliferating. Although newer photovoice projects are clearly rooted in the seminal works of Wang and colleagues and most all subsequent articles reference them, the majority of photovoice efforts alter Wang's methodology to suit the needs and constraints of researchers' unique projects. As a result of this tailoring, the manifestations of partnership and of photovoice methodology vary broadly across the participatory spectrum.

Along with their substantial contributions, the early literature left several questions unanswered. These articles provided reflective descriptions of the photovoice methodology but did not provide a model or tools for how to evaluate photovoice processes and outcomes. In most of Wang and her colleagues' work, the authors do not report how evaluation data were collected or analyzed, the data limitations, or how other researchers might confirm findings. They further do not include short- or long-term follow-up to assess impacts.

As the body of photovoice literature has grown, some convergence on reported processes and outcomes has occurred, but, as suggested in this review, the quality of studies has varied considerably.

There are several weaknesses within the literature that should be addressed by future photovoice researchers and their community partners. First, as noted above, the methods used to evaluate photovoice projects tend to be only vaguely described, if they are described at all. This is especially true for analysis methods, and although there is a substantial body of literature on methods for the analysis of visual data (Rose, 2007; Van Leeuwen & Jewitt, 2001), essential information about how researchers went from photographs to findings is rarely mentioned. There also tends to be little or no discussion of study limitations in terms of research rigor, although other limitations and challenges (e.g., regarding ethical and participation issues) often were discussed.

Second, there were no consistent practices in terms of reporting the level of community participation throughout the project. Nearly all of the articles provided enough information to assess the level of community participation in determining research question(s), study design, recruitment and retention of participants, measurement instruments and data collection, intervention development and implementation, interpretation of findings, and/or dissemination of findings. However, only a few publications (Lykes et al., 2003; Wang et al., 1998) provided a description of community participation in proposal development, financial responsibility for grant funds, and/or application of findings to the health concern identified. Because of this inconsistency, some low participation scores may in part be a reflection of underreporting.

Third and finally, although photovoice is often conceived of as a community intervention, its impact at the community level has not been well described or assessed. None of the studies reviewed used community- or neighborhood-level analysis. Throughout the literature, there was little attempt to evaluate the long-term impact of photovoice on individuals or communities, although it was often assumed that intention to act, increasing the understanding of community concerns, and individual empowerment would have important long-term impacts on community health.

Despite these limitations, the photovoice literature in public health is becoming more robust, describing and analyzing diverse, nuanced applications of the method within a range of geographic and social contexts. There is increasing evidence that photovoice can be used as a participatory tool for engaging communities as partners in a CBPR process. Photovoice also has shown promise in enabling public health

researchers and practitioners to reach hard-to-reach communities and engage them in a meaningful, action-oriented research process.

The photovoice literature reviewed here suggests that the processes and outcomes of the more participatory projects differ from those of their less participatory peers in some important ways. More participatory projects tend to be associated with (a) long-standing relationships between researchers and community, (b) intensive training to build community capacity, (c) an iterative cycle of community documentation and critical dialogue, and (d) multilevel outcomes including engaging community members in action and advocacy, enhancing understanding of community needs and assets, and facilitating individual empowerment. There is no trend indicating that quality of participation differed by participant characteristics such as age, race/ethnicity, income level, or geographical residence. The literature reveals that only the more participatory projects tended to achieve all three of Wang and Burris's (1997) original photovoice goals—recording and reflecting on community strengths and concerns, promoting critical dialogue and knowledge, and reaching policy makers.

IMPLICATIONS FOR PRACTICE

This review of the literature suggests several key implications for practice. First, photovoice is a flexible tool for strengthening public health research and interventions. It can be altered to fit diverse partnerships, community contexts, participant characteristics, and research or intervention interests.

Second, the level of community participation in photovoice also can vary across key stages, including training, research and documentation, and photo-elicited discussion. Although the strongest projects reviewed tended to be those with the highest rates of participation across phases, flexibility in the levels of participation according to the specific skills that different partner groups offer, the varying needs of different contributors, and the ethical challenges inherent in particular cases may enable broader applicability of this approach.

Third, photovoice can result in several outcomes that are important to improving community health, including enhanced community involvement in action and advocacy, enriched public health research, and individual empowerment. The possibility of achieving these outcomes is further strengthened by equitable community participation during all stages of the photovoice process, and photovoice practitioners are encouraged to strive for the highest levels of involvement that are feasible or practical in their applications of this approach.

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