Participatory Photography in Qualitative Research: A Methodological Review

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VISUAL METHODOLOGIES
ISSN: 2040-5456

Research Article

ABSTRACT

This paper reviews the use of participatory photography in qualitative research, drawing on papers published between 1995 and 2011. The review sought to provide an overview of photographic methods used in research. Studies using Photovoice methodology were not included. The search identified 53 reports of empirical studies in which participants were asked to take photographs as part of a research process. The review drew on systematic review methodology but its objective was not to synthesise evidence, rather to generate a narrative critique of the use of photographic methods. Whilst the benefits of using participatory photography were clearly articulated in the literature, there was a lack of detailed reporting of how the methods were used in relation to data analysis and relatively little critical discussion of the limitations of photographic methods. Hence researchers are expending significant efforts to engage with visual methods through photography, but they may not be using photographic data to its best potential.

Keywords: participatory photography, photo-elicitation, visual data, methods, review, photographs, visual methods

Introduction

Visual methods have been developing steadily for the last 30 years (Packard, 2008) by researchers wishing to enrich qualitative research. One of the strengths of visual methods is that they are thought to reduce power imbalances between researchers and participants (Hurworth, 2003; Pink, 2001; Chaplin, 1994). Visual methods, particularly participatory photography, have also been used to advance empowerment or political agendas. Non-participatory visual methods, for example the use of photo-elicitation where participants respond to photographs which are provided by the researcher, are claimed to be effective in establishing rapport with participants and creating a "comfortable space for discussion" (Epstein, Stevens, McKeever & Baruchel, 2006, p. 8). This form of photo-elicitation was first developed and explored by John Collier in the 1950s (Collier, 1986). Collier compared photo-elicitation interviews with conventional interviews in his study of the environmental basis of psychological stress. He found that photo-elicitation produced longer and more in-depth interviews, but without the weariness that conventional interviewing can entail. This has been echoed by researchers since Collier's findings were publicised widely in his book *Visual Anthropology* in 1986.

Clark-Ibanez (2004) makes a distinction between researcher-driven and participant-driven photography; whilst the former can aid theoretical research, the latter may be more useful for gaining insight into people's lives. Participant-generated photography is also viewed as a useful research tool for communication as it engages participants in an activity and enables them to retain control over what they share with researchers. Photographs have been used to advance political agendas, to empower vulnerable groups, and to increase understanding of phenomena such as homelessness, religion, illness, education, domestic violence, hope and more. Using photographs that participants have taken as part of the research process is something that researchers have done in many different fields and disciplines, and some methods have already been reported in literature reviews, such as Photovoice. This is a specific type of action research which aims to empower its participants through participatory dialogic processes (Wang, 1999; Strack, Magill & McDonagh, 2004). Photovoice is a highly developed method which has a considerable body of literature relating to its underlying theory and its processes of data collection, analysis and dissemination (Hergenrather, Rhodes & Clark, 2009; Catalani & Mickler, 2010). Due to the large body of theoretical and empirical literature already in existence on Photovoice, these studies were not included in the review.

Whilst the range of applications for photography in qualitative research is growing, the ways in which photographs are understood ontologically and incorporated epistemologically into research projects are relatively under-theorised. There are a number of reviews exploring visual methodologies and their application to health and illness, clinical nursing practice and social research (Harrison, 2002; Riley & Manias,

2004; Banks, 2001). However, none look specifically at participatory photography. This review therefore addressed a gap in current understandings of the use of participatory photography in qualitative research.

This review focuses on qualitative studies where research participants took their own photographs as part of the research process. The review is methodological in nature and although it shares characteristics of a systematic review in terms of process, the aim was not to synthesise evidence surrounding outcomes, but rather to provide insight into the ways in which participatory photography is used in qualitative research. Studies were critically reviewed but instead of using standard tools a different approach was derived in order to capture the methods used in the studies. The specific aims of the review were to identify empirical qualitative research studies that incorporated participant-generated photographs as part of the research process, and to explore the ways in which participant-generated photographs are reported to have been collected, analysed, interpreted and disseminated.

Review methodology

Search and screening process

An initial literature search was undertaken at the beginning of the PhD study in May 2007. This was repeated in January 2011 using the same search strategy in order to update the results. The following eight databases were searched.

Figure 1: Databases searched

- Applied Social Science Index and Abstracts
- ArtBibliographies Modern
- Avery Index to Architectural Periodicals
- British Humanities Index
- International Bibliography of the Social Sciences
- British Nursing Index
- Cumulative Index to Nursing and Allied Health Literature
- Allied and Complementary Medicine Database

The search terms were arrived at following an iterative process which reduced the search terms to a small number of broad terms.

Figure 2: Final search terms

Word group 1	Word group 2	Word group 3
Photograph*	Research*	Method*
	Qualitative*	Data

Screening of abstracts took place to determine which papers to include in the review. This involved assessing each paper against the inclusion and exclusion criteria in Figure 3 below. As the focus was on methodology rather than a substantive topic, no studies were excluded on the grounds that the topic or outcome being researched was not relevant. The included studies addressed a broad range of topics. The study sought to capture studies where participants took photographs as part of the research process. Others studies, such as those using pre-existing photographs, were excluded.

Eleven studies were excluded despite their use of participant-generated photography. This was due to insufficient information regarding data collection and analysis.

**Figure 3: Inclusion and exclusion criteria**

Inclusion criteria:
Qualitative studies where participants take photographs as part of the research process
English language papers

Exclusion criteria:
Studies not using photography
Studies using photography but where photographs are not taken by research participants as part of the research process
Not English language papers
Photovoice studies
Too little information on methodology for data extraction

Figure 4: Flowchart of screening process
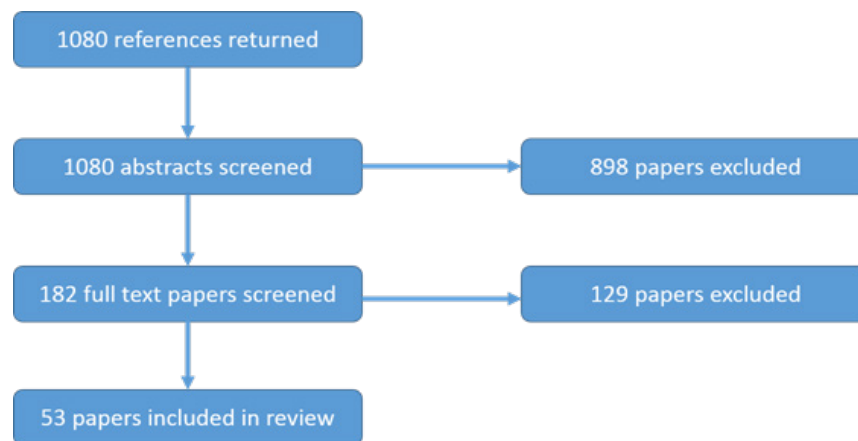
The search in 2007 resulted in 691 pieces of international literature. In addition, 34 pieces of literature from sources other than the systematic search were added to the complete list resulting in a total of number of 725. In 2011, a further 355 pieces of literature were found, bringing the total to 1080. The search was repeated in exactly the same way, restricting the dates to return studies between 2007 and 2011.

After screening abstracts for relevance, 898 were excluded and 182 papers were retrieved for full text screening. This resulted in a further 129 exclusions, leaving 53 papers in the review. Two of these papers reported on the same research project from different angles, so there were 52 studies in total.

Data extraction and synthesis

Data on each study were recorded using data extraction sheets that captured details of how photographs were collected, analysed and interpreted, as well as the overall research design and results of each study. Once data had been extracted and studies grouped into categories, analysis of each group of studies took place. A constant-comparison approach was used whereby each study's extracted data was reviewed and compared with other studies in the same group. Full texts were revisited for clarification.

Results

The review identified a large number of studies involving participant photography. These studies spanned a wide range of topics and participants and the use of participatory photography appears to be particularly popular with researchers exploring particular settings such as schools, neighbourhoods and hospitals. Using participatory photography is a popular method for researchers wishing to include the voices of vulnerable groups or groups which may find it difficult to talk about their feelings, such as victims of domestic abuse. It is also a form of enquiry chosen to explore non-Western or non-mainstream groups such as Sri Lankan monks, travellers and Palestinian children. In addition, the method has been used with groups that may struggle to communicate using traditional forms of qualitative enquiry due to issues of power, language or disability. The most common group with which participant-generated photography has been used (according to this review) is children and young people.

The data extraction process sought to identify the different ways in which photographs were used in the studies. From this process, two broad categories emerged:

1. Studies including photographs with limited textual support (10 studies);
2. Studies including photographs with full textual support (42 studies).

Within each category, the photographic methodologies were reviewed in terms of the different phases of the research process including data collection, analysis and the

presentation and dissemination of findings.

Photographs with limited textual support

This group of 10 studies collected some text (verbal/written) alongside participants' photographs. 'Limited' textual support refers to any supporting text not elicited from in-depth interviews or detailed written narratives. All but two of the studies were conducted with children, young people or students.

Data collection

In this group of studies, participants were asked to take photographs with varying levels of instructions. In addition some contextual information was also provided by participants. In five cases this consisted of brief verbal explanations. For example, Aldridge (2007) asked participants with learning difficulties to take photographs of aspects of their participation in social and therapeutic horticulture projects that they particularly enjoyed or liked. She then asked them to identify which photographs were their favourite and, if possible, to explain their reason briefly. Hume, Salmon & Ball (2005) asked children to take photographs of their home and neighbourhood environments. Participants were asked to explain why they took each photograph, and quotations were attached to each photograph for analysis. Clark & Zimmer (2001) asked mothers to photograph their babies at three-month intervals to capture events relevant to children's health. Mothers were asked to briefly state "what's happening" in each shot. Rampton et al. (2007) conducted short interviews with siblings of children with Down's syndrome, asking them to describe each photograph and state why it was important. White, Bushin, Carpena-Méndez & Laoire (2010) asked Irish children to take photographs and to talk or draw a little about them in a group setting.

In four studies participants provided written text which accompanied their photographs. Sampson & Gifford (2010) asked refugee children to take photographs of specific things (such as their favourite place at school) and to create 'settlement journals' in which they wrote the name of the place, a description and reasons for taking each shot. Lehna & Tholcken (2001) asked participants to take photographs of specific aspects of their studies, to illustrate their written work as student nurses with families as part of a case-load. Rapport, Doel & Jerzembek (2009) asked community pharmacists to photographs their workspace and write a two-page biography about workspace. The biographies were not explicitly intended to explain the photographs; visual and written data were separately analysed. Dockett & Perry (2005) asked children to think about what is important for new pupils when starting school, and in groups they took photographs and provided written comments to accompany each photograph. In this study the children spoke prior to photo-taking about what each photograph should capture and why, and afterwards decided as a group what text should accompany each photograph.

In the final study, Monteiro & Dollinger (1998) did not explain clearly how supporting text was obtained (i.e. whether verbal or written), but they did report that photographs were accompanied by comments.

Data analysis

Photographs were viewed as data in the majority of these studies and were subject to analysis. These varied in terms of intensity; some researchers performed several stages and layers of analysis, whilst others ran relatively simple analyses. The most common approach to analysis of photographs was some form of categorisation, which took place in eight of the 10 studies. Categorisation consisted of content analysis, coding, sorting, creating lists, or a combination of these methods. Rapport et al. (2009) looked at object type, positioning, affect, placement and type of space (Rapport et al., 2009, p. 317). As with most studies in this category, there were minimal details of the analytic process relating to photographs.

In four studies analysis took place on the images alone; in the rest the unit of analysis was the photograph and its textual support. In two cases, photographs were analysed prior to the collection of textual support (Rampton et al., 2007; White et al., 2010). Content analysis was used in four of the 10 studies and was used to capture themes (Hume et al., 2005; Aldridge, 2007); activities and people (Clark & Zimmer, 2001); and general content (White et al., 2010). Rampton et al., (2009) sorted photographs thematically and quantified them in terms of the number and percentage of photographs in each theme/category/subcategory. Sampson & Gifford (2010) analysed photographs pasted into 'settlement journals' created by refugee children, and created lists, which were later compared, of the places appearing in the photographs along with whether they were liked or disliked according to participants' written comments. Similarly, Dockett & Perry (2005) used photo-books created by children as their unit of analysis; these consisted of photographs of their school with brief written comments, which were then thematically analysed. Lehna & Tholcken (2001) used multiple methods of analysis for their study of nursing students' experiences of case management. Nursing students produced photo-books from their photographs of families; each book was examined to look for the 'story' being told by the photographs. In addition, an inventory of all photographs was made and photographs were sorted into three categories by researchers. Aldridge (2007) performed content analysis on 471 photographs taken by people with learning disabilities who had taken part in a gardening project, and performed an additional analysis on 68 photographs participants had identified as being their favourite, although this additional analysis was not explained in the paper.

In all studies in this group there was a general lack of detailed description of how researchers went about the analysis of photographs; whilst the methods were reported, very little reflection was noted.

Challenges identified by the authors

A number of challenges and limitations were identified in four of the 10 studies in this category. These related to practical and ethical considerations as well as the impact of the research environment on the visual data produced.

The challenge of consent was identified by Aldridge (2007) in her study with people with learning difficulties. She obtained verbal and written consent from project organisers and respondents' advocates, and where possible from respondents themselves. Whilst this challenge is common to any research with groups who are unable to provide informed consent for themselves, Aldridge highlights another challenge for photographic studies which rely on the photographs as the primary source of data. She argues that whilst images alone can raise awareness of the 'inner world' of vulnerable groups, the lack of accompanying narrative can minimise the depth of meaning reached, and that photography can be more useful if seen as part of a multi-dimensional research approach (Aldridge, 2007).

Clark & Zimmer (2001), in their study with Latino mothers, identified a number of challenges in their study. On a practical level, the cameras themselves posed a challenge to the research; some of the newer immigrant mothers did not take their photographs because they were unable to use the cameras. Time was also a restriction and some mothers reported not having had time to take their photographs. Furthermore, the fact that the mothers were taking the photographs meant that they were rarely or never present in the visual data. Families also sometimes used the cameras for purposes other than the research, for example to document a car accident, when the camera given to them was the only camera they had access to (Clark & Zimmer, 2001).

The issue of intrusion into family life was discussed in Rampton et al.'s (2007) study of siblings of children with Down's Syndrome. The authors felt that parents may have suggested that siblings take certain pictures or avoid taking others to manage the intrusion of the camera into the family home, thus limiting the full range of photographs that could potentially have been taken (Rampton et al., 2007). This is a common challenge in photographic research with children, and could lead to data being skewed towards what parents feel they are happy sharing about family life with researchers and the outside world. Similarly, White et al. (2010) reflected on the impact of the school environment on the visual data produced by children in their study of contemporary Irish childhoods, and the influence the school environment may have had on children's responses to the research.

Photographs with full textual support

The largest group (n=42) of studies included verbal or written text provided by participants to accompany their photographs. Seventeen of these studies were conducted with children and young people and 24 with adults. One additional study involved both adults and children.

Five of the studies with children and young people were in the field of education. Most explored aspects of the school environment including inclusivity (Carrington, Allen & Osmolowski, 2007; Moss, Deppeler, Astley & Pattison, 2007); pupils' perceptions of 'quality' teachers (Marquez-Zenkov, 2007); beliefs about school (Marquez-Zenkov, Harmon & van Lier, 2007); and the playschool environment (Einarsdottir, 2005). In addition, one study looked at experiential learning for tourism students (Xie, 2004). Five studies explored aspects of children and young people's health and included perceptions of health held by adolescent parents and immigrant Latino adolescents (Stevens, 2006; Garcia, Duckett, Saewyc & Bearinger, 2007); physical activity and nutrition (Dennis, Gaulocher, Carpiano & Brown, 2009); cross-cultural processes of resilience (Didkowsky, Ungar & Liebenberg, 2010); and activity participation for children with disabilities (Harding et al., 2009). Four studies looked at experiences of children's everyday lives, including children's home environments in Brazil (Cruickshank & Mason, 2003); children working and living on the streets of Accra (Mizen & Ofosu-Kusi, 2010); homeless children (Percy, 1995); and traveller children (Dean, 2009). The final four studies explored children's photographic behaviour at different ages (Sharples, Davison, Thomas & Rudman, 2003); perceptions of hope (Turner, 2005); perceptions of the Israeli separation wall (Shalhoub-Kevorkian, 2006); and children's everyday lives in Buenos Aires (Meo, 2010).

Sixteen of the studies with adult participants were in the field of health, including studies of hospitalisation, the hospital environment and hospital discharge (Radley & Taylor, 2003; Riley & Manias, 2003; Douglas & Douglas, 2005; LeClerc, Wells, Craig & Wilson, 2002); experiences of caring (Aubeeluck & Buchanan, 2006; Lassetter, Mandleco & Roper, 2007); experiences of cancer (Frith & Harcourt, 2007; Gates, Lackey & Brown, 2001); neighbourhoods and health (Cannuscio et al., 2009; Wallis, Winch & O'Campo, 2010); nutrition (Fleury, Keller & Perez, 2009); concepts of hope in schizophrenia (Miller & Happell, 2006); maternity care (Briscoe & Lavender, 2009); domestic violence (Frohmann, 2005); living with aphasia (Brown, Worrall, Davidson & Howe, 2010) and mental health (Sitvast, Abma & Widdershoven, 2010).

Other studies with adults explored the experiences and lives of adult groups more generally, examining topics such as white masculinities (Farough, 2006); Sri Lankan monastic culture (Samuels, 2004); dyslexia (Carawan & Nalavany, 2010); women's lives in Peru (Singhal & Rattine-Flaherty, 2006); women's craft-making activities in Brazil (Cruickshank & Mason, 2003); homelessness (Radley, Hodgetts & Cullen, 2005; Johnsen, May & Cloke, 2008); and urban life (Moore et al., 2008). One study did not define the participant group but looked at peoples' experiences of typographic texts in public settings such as shopping centres and museums (Bachfisher, Robertson & Zmijewska, 2007).

Data collection

In the majority of studies, participants were asked to take photographs prior to the collection of textual support, which consisted of interviews (n=35), detailed written narratives (n=2), and focus groups or group discussions (n=6). Some studies used more than one method to collect textual support. In six cases participants took part in in-depth interviews prior to as well as after taking photographs (Farough, 2006; Gates et al., 2001; Didkowsky et al., 2010; Frith & Harcourt, 2007; Johnsen et al., 2008; Meo 2010).

In all but two cases, participants were given instructions to guide their photo-taking. The majority of these consisted of asking participants to focus on one or more broad areas, such as 'places, people, activities and things of interest' (Dean, 2007, p. 17), 'show me your neighbourhood' (Wallis et al., 2010, p. 117), or 'the daily life of an operating room nurse' (Riley & Manias, 2003, p. 84). In some studies, more structured questions guided photo-taking (Marquez-Zenkov et al., 2007; Sitvast et al., 2010; Cruickshank & Mason, 2003). The two studies that gave no guidance were: a study of resilience in young people where participants were asked to photograph 'anything they wished to talk about' (Didkowsky et al., 2010: 15); and a study looking at children's photographic behaviour where participants were told to use the cameras however they wished with no adult intervention (Sharples et al., 2003).

In most studies, participants were asked to inform their photo-taking only by their own experiences, perceptions or feelings. However in two studies participants were asked to also think about a particular audience for their photographs. Carawan & Nalavany (2010), for example, asked participants to take 12 or more photographs that 'would help people understand your dyslexia' (Carawan & Nalavany, 2010, p. 323-4), whilst Turner (2005) asked participants to imagine they were taking photographs for an exhibition on 'hope'. In the majority of studies in this group, participants took photographs which were then developed and used in follow up interviews to construct full textual support. The photographs were used in some studies as prompts for deeper discussion of the topic. In other studies, the content of the photographs was the primary concern, and participants were asked to describe their photographs and why they took each one (Douglas & Douglas, 2005; Riley & Manias, 2003; Lassetter et al., 2007; Singhal & Rattine-Flaherty, 2006). In studies not using one-to-one interviews, focus groups or group interviews were conducted to produce full textual support (Dennis et al., 2009; Sharples et al., 2003), or detailed written explanations were sought (Aubeeluck & Buchanan, 2006; Xie, 2004).

Data analysis

Data analysis was approached in a number of ways by studies in this group. Many studies in this group did not attempt to analyse participant-generated photographs and the role of the images was to elicit verbal data from participants rather than constituting a dataset themselves. This section focuses on the 17 studies that did include an analytic

process. In four of the 17 studies participants were asked to perform some analysis on their photographs. In most cases this consisted of sorting exercises, however Percy (1995) asked children from homeless families to take photographs of what was special in their lives, to choose five photographs for enlargement, and to rank these from most to least special. Of the studies asking participants to sort their photographs, this included sorting photographs into three categories: barriers to health, promoters of health and neutral or mixed images (Cannuscio et al., 2009); writing themes on the back of photographs and sorting them into categories (Xie, 2004); and selecting the photographs that best represented their experiences (Dennis et al., 2009). Content analysis was used in five studies (Douglas & Douglas, 2005; Einarsdottir, 2005; Aubeeluck & Buchanan, 2006; Marquez-Zenkov et al., 2007; Moore et al., 2008). In Moore et al. (2008), participants completed log sheets for each of their photographs.

In addition to the four studies where participants sorted their photographs, in two studies photographs were sorted into themes or categories by researchers (Frohmann, 2005; Carrington et al., 2007). In two studies photographs were coded by researchers (Sharples et al., 2003; Lassetter et al., 2007). In all of these cases, very little information regarding the techniques used to code, sort and perform content analysis on photographs was provided.

In four studies alternative methods were used to analyse photographs. These were informed by cultural, semiotic or aesthetic analyses of visual images. In one study photographs were analysed for content, arrangement and meaning (Gates et al., 2001) and in another Wright's (1999) method of 'reading' visual images was used, which consists of looking at the information internal to an image, the way in which the content is presented, and the context or social relations shaping production and interpretation (Wright, 1999, used by Riley & Manias, 2003). 'Reflexive interpretation' was used by Cruickshank & Mason (2003), which appeared to take into consideration the various 'gazes' inherent to the images, along with reference to Hall's 'subjective' and 'objective' interpretation of images. The aesthetic dimensions of the images were also taken into consideration, however overall very little explanation of how this was carried out was provided. In Sitvast et al. (2010), a semiotic method was used in order to identify the perspective, tone, setting, theme and focus of each photograph, then the 'symbolic meaning' of the photograph was unravelled (Sitvast et al., 2010). As before, little information was provided relating to how these techniques were actually performed.

Challenges identified by the authors

The challenges of using participant-generated photography were not often discussed, but were mentioned in a few cases. Researchers referred to the potential for family members or friends to influence the photo-taking process, particularly with child participants (e.g. Dean, 2007; Cruickshank & Mason, 2003). Harding et al. (2009) acknowledged that the

way their project was framed may have encouraged a bias towards the positive aspects of their participants' lives, as they asked participants to discuss their two most favourite and one least favourite out of school activity.

Cruickshank & Mason (2003) discussed the different 'gazes' on their participants' lives and the ethical issue of representation. Two members of the research team and the professional photographer came with a Western 'gaze', which the authors acknowledged as a possible source of misrepresentation and cultural misunderstanding (Cruickshank & Mason, 2003).

Johnsen et al. (2008) gave cameras to homeless people and asked them to document their lives, and described the method as resource-intensive. They discussed how giving disposable cameras posed a risk to participants who may have become a target for thieves. In some cases this limited the photographs that participants felt they could take. The authors also noted that many cameras were not returned and that arranging follow up interviews was extremely difficult; for many vulnerable groups, participating in a research project is not a priority when they are struggling to meet their basic needs on a daily basis (Johnsen et al., 2008). Similarly, Moore et al. (2008) discussed the way in which becoming a photographer may change the status of participants in their own community, and that engaging in a photography project may be a risk in terms of incriminating oneself or others in illegal activity or in terms of provoking negative responses. The authors also pointed out that photographs prioritise the visual, and may neglect non-visual aspects of the environment such as noise or pollution (Moore et al., 2008).

Discussion

The key themes of the discussion relate to the benefits reported by researchers of using participatory photography; the different ways in which data collection was framed to participants; the different roles that photographs played in the studies; the data analysis methods used; and the visual outputs from the studies.

The reasons given for choosing participatory photography, as well as the benefits reported by researchers, illuminate why it is a particularly popular method to use with vulnerable, disempowered or marginalised groups. The ability of photographs to aid communicative processes was noted by many (e.g. Fleury et al., 2009; Harding et al., 2009; Gates et al., 2001; Percy, 1995; Radley & Taylor, 2003; Samuels, 2004; Cruickshank & Mason, 2003; Lassetter et al., 2007). In addition, researchers referred to the breaking down of power hierarchies and the empowerment of participants during the research process (e.g. Dockett & Perry, 2005; Einarsdottir, 2005; Didkowsky et al., 2010; Mizen & Ofosu-Kusi, 2010). Allowing participants to take their own photographs allowed for issues not prioritised by researchers to be highlighted (e.g. Frith & Harcourt, 2007; Garcia et al., 2007; White et al., 2010). It was found that participating in a photography project enabled

some participants to change how they felt towards their environment; this happened in a study exploring environmental conditions and perceptions in city centre locations in the UK. Photography allowed participants to challenge their stereotypical attitudes towards their local area and notice the positive aspects (Moore et al., 2008). Other studies noted the potential for photography to act as a tool for self-exploration or the construction of positive identities, and the opportunity to demonstrate capacity, rather than incapacity (Aldridge, 2007; Frohmann, 2005; Turner, 2005; Miller & Happell, 2006). For Aldridge (2007), using participants' photographs as the primary form of data meant that people with learning difficulties were able to engage in the research process more effectively as there was very little reliance on verbal communication.

The studies in the review used participant-generated photography to collect data in many different and novel ways, and participants responded to being given varying levels of instruction regarding how to approach their photographs. In a relatively small number of studies, researchers gave participants a 'free rein' to take photographs of whatever they like. In the majority of cases, participants were given some sort of brief, ranging from one topic or question to a number of specific topics or questions. There appeared to be no pattern between the level of instruction given to participants and if and how the photographs were analysed. In terms of data analysis, studies fell into the following categories:

1. No analysis of photographs
2. Photographs observed alongside transcripts but not analysed
3. Participants involved in initial analysis of photographs
4. Researchers analysed photographs

Thus photographs performed particular roles within the studies. The first and most common role was aiding the data collection process through photo-elicitation. Second, photographs played a supportive role in data analysis without being subject to analysis (e.g. Harding et al., 2009). Third, photographs were seen as a dataset in themselves and were analysed. The methods used to analyse participants' photographs revolved around content analysis, sorting, mapping and coding. However, the majority of studies provided limited explanation of or reflection on how these techniques were used with photographic data. This included several cases where participants were involved in data analysis. Some researchers used interpretive methods such as 'reading' (Wright, 1999), semiotics (Sitvast et al., 2010) or reflexive interpretation (Cruickshank & Mason, 2003), although in the latter case negligible explanation of the method was given. This prompts a question about the options available to researchers for the analysis of participant-generated photographs, and why data analysis procedures are so under-reported. There are analytic frameworks available to researchers which offer more interpretive methods for understanding visual data. For example, Chalfen (1998) proposed a 25-celled grid which enables researchers to map the relationship between 'communication events' such as the planning, shooting and editing of a photograph,

and the 'components' of an image such as the setting, topic and participants (Chalfen, 1998). Templin (1982) argues for two contexts: the context of production and the context of reception. Hall (1997) focuses on these two contexts, distinguishing between 'subjective' and 'objective' photo-taking and interpretation. The photographer can take a photograph based upon his or her emotional response to the subject matter, resulting in an image which provokes an emotional response in the viewer. This is 'subjective' interpretation. Or, the photographer can take a photograph which aims to provide descriptive information and a more factual representation; this results in 'objective' interpretation. Hall argues that photographers may be more or less objective depending on their reaction to the subject matter (Hall, 1997, cited in Cruickshank & Mason, 2003). Rose (2001) and Banks (2001) argue for a narrative approach to image analysis, highlighting the different standpoints of taker, taken and viewer and their relationships to the image, as well as 'internal' and 'external' narratives of photographs. Even though these interpretive frameworks were discussed by researchers, very little information on whether and how they informed the techniques used for data analysis was provided.

In nine studies the photographs generated by participants were used to create a form of output from the research process. In four cases these consisted of photograph albums, scrap books or photo-books which were kept by participants either individually or within a classroom setting (Lehna & Tholcken, 2001; White et al., 2010; Dean, 2009; Dockett & Perry, 2005). Some participants were involved in impact activities such as conferences, television shows and radio chat shows (Frohmann, 2005; Carrington et al., 2007), and some photographs were displayed in exhibitions or on websites (Frohmann, 2005; Dean, 2009; Moss et al., 2007). Where the role of participant-generated photographs was to aid data collection, examples of photographs were often included in journal articles.

Conclusion

Whilst the field of visual methods and the use of participatory photography has grown considerably in the last 20 years, the methods and techniques used by researchers in studies where participants take photographs as part of the research process have been relatively under-explored. This review aimed to address this gap in knowledge.

This review has provided a detailed insight into the ways in which participant-generated photographs were used within a sample of 53 studies. The contribution of photography in terms of facilitating data collection was well demonstrated in the studies reviewed, and centred on constructing positive relationships between researchers and participants, the empowerment of participants, and providing access to otherwise 'hidden' aspects of participants' lives. In addition, photography enabled participants to engage in creative activity as well as producing outputs such as photograph albums which may have provided a valued memento of the research.

In terms of data analysis, the benefits were less clear. The addition of textual support produced more nuanced and in-depth narratives from participants, and shifted the emphasis from visual to discursive data; photographs were less often analysed as data if they had been used for photo-elicitation. Analytic techniques were not always clearly described, and although there are several frameworks available in the literature on visual methods, researchers either were reluctant to apply them, lacked the specific techniques in order to do so, or were unable to report fully on how they were applied.

This indicates that there may be a need for changes in the ways that researchers report their use of visual methods, in order to provide more clarity on how these support the research process, and more detail about the techniques used to analyse photographs. At present there are few criteria with which to assess rigour in the use of participant-generated photographs as research papers provide too little methodological information. This is an area that might benefit from the development of methodological guidelines and quality assessment tools. Further research is needed on the way in which researchers and research participants engage with photographic methods, particularly in the processes of analysis, so that assessment tools may be developed.

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