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Current Opinion in Environmental Sustainability

Capturing the moment: a snapshot review of contemporary food environment research featuring participatory photography methods

Christopher Turner[1], Leah Salm[1], Mark Spires[2], Amos Laar[3] and Michelle Holdsworth[4]

This snapshot review captures recent advances in the use of participatory photography methods within food environment research, featuring 28 peer-reviewed articles published between 2020 and 2022. Records were retrieved from a systematic search of the databases PubMed and Scopus. Studies featured high-income (64%) and low- and middle-income countries (36%). Local and school food environments were common focal sites, with studies typically investigating how food environments influence food acquisition and consumption practices among adult and adolescent consumers. Photovoice was the dominant methodological framing (71%), although we found substantial variation in study designs, camera devices and degree of participation. Going forward, we encourage researchers and practitioners to revisit the roots of participatory photography as a participatory action research strategy, to engage participants as agents of change in their food environment in support of the sustainable transformation of food systems and improved diets, nutrition and health.

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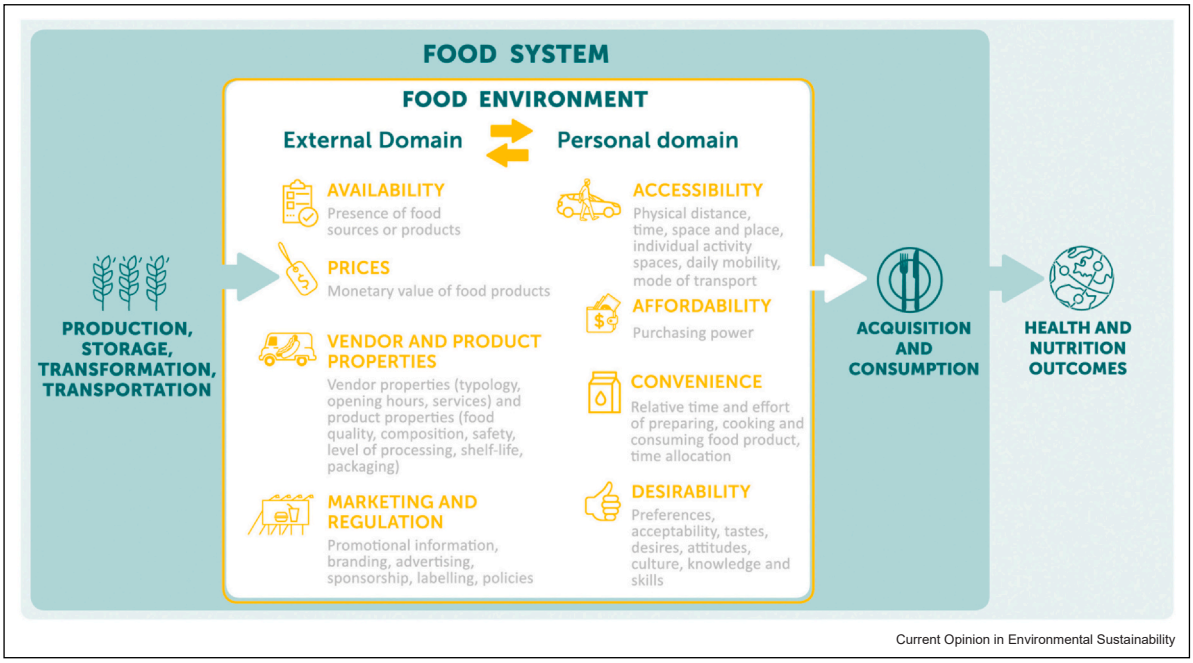
Introduction

Participatory photography is becoming an increasingly popular method within food environment research, providing a novel approach to capture and explore contextualised lived experiences of food acquisition and consumption practices. Grounded in the use of photographs and photo-elicitation techniques from anthropology and sociology [7–9,18], participatory photography was first applied to public health research by Wang and Burris [44] in their seminal work developing the Photovoice method, a community-based participatory action research strategy applied to women's health [44,45]. As a visual method, participatory photography is, as the name suggests, based on the basic premise of having research participants document their lived experience of a particular subject or phenomena through the medium of photography. Photographs are typically curated by participants for inclusion in follow-up dialogue, such as in-depth interviews or focus group discussions, with the aim of eliciting contextualised narratives that not only explore the visual subject matter, but also wider perceptions, interpretations, meanings and understandings associated with the photographs. In this way, participatory photography provides a methodological and analytical lens to explore lived experience *with* participants, through their eyes and from their perspectives, offering grounded insights that extend beyond what might be unveiled through more traditional qualitative interview approaches [18].

Visual methods such as participatory photography allow for the investigation of natural, built, social and symbolic environments, and how connections between these environments shape public health-related beliefs, practices and outcomes [6]. Within food environment research, participatory photography enables a comprehensive qualitative investigation into external and personal food environment domains (Figure 1) and the ways in which people interact with food sources to acquire and consume foods as part of daily life [27,40].

In this review, we aim to capture current advances in the use of participatory photography methods within food environment research. In line with the remit of the Current Opinion journals, we provide a timely and

Figure 1



A globally applicable food environment conceptual framework [40].

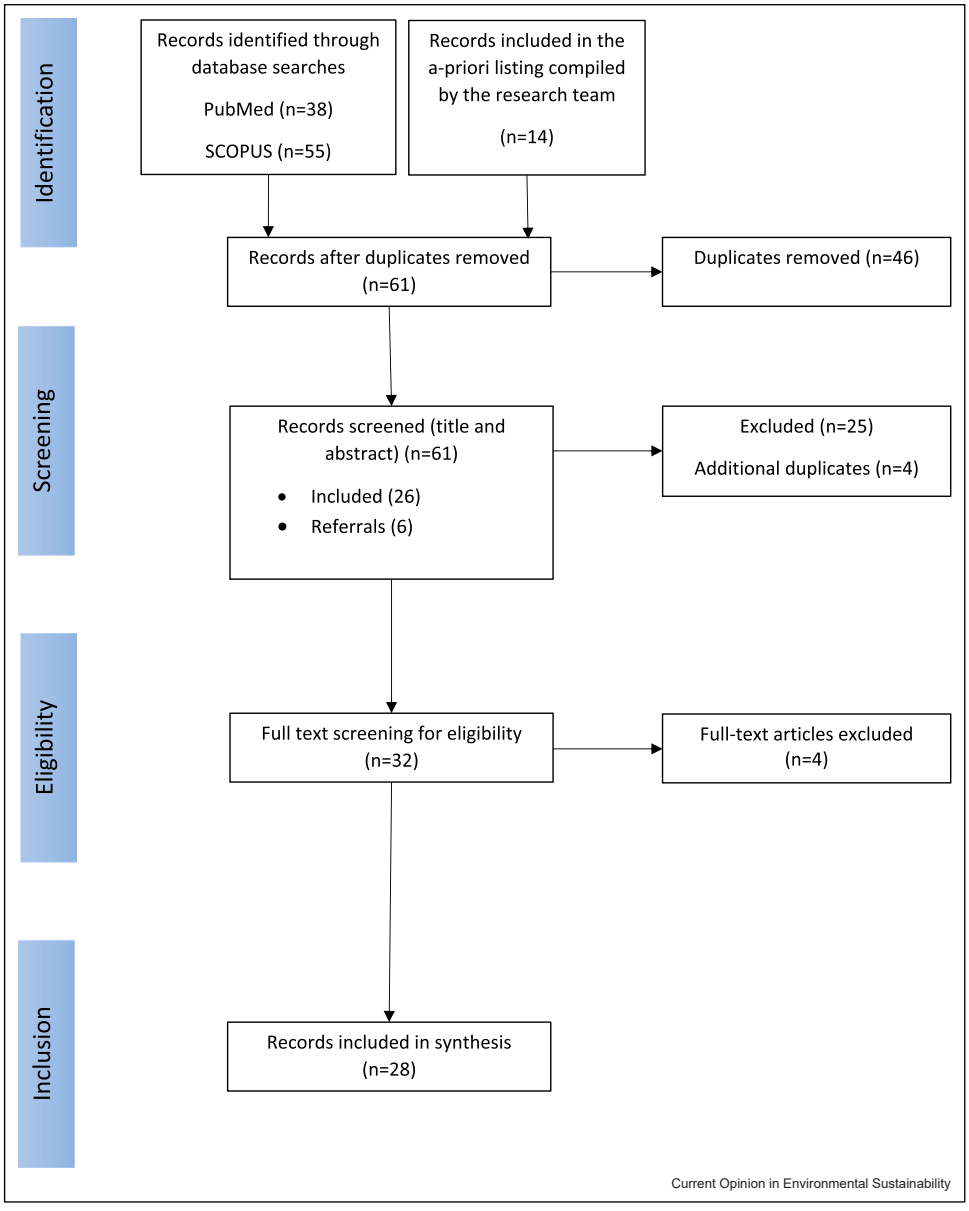
concise systematic review and commentary on the contemporary literature, focusing on peer-reviewed articles published from 2020 to 2022. Five annotated references are provided to guide readers to articles of special (•) and outstanding (••) interest. To the best of our knowledge, this is the first review to explicitly address this rapidly emerging body of global literature.

Methods

As a point of departure, based on our existing knowledge of the literature, we compiled an a priori listing of fourteen food environment research articles featuring participatory photography. This listing informed the development of systematic search terms for articles containing 'food environment' and 'photo' in either the title or abstract. The search period was restricted to reflect the contemporary literature from the past two years — as per the guidelines for Current Opinion journal reviews — capturing records from 1st January 2020 to 1st November 2022. The systematic search was conducted in November 2022 in the databases PubMed and Scopus. These established databases were selected given their relevance to research on food and public health. Sixty-one records were retrieved once duplicates were removed.

Peer-reviewed published articles were considered for inclusion if they met the following criteria: 1) included both search concepts and 2) included a participatory photography method whereby participants were actively involved in the photography and qualitative follow-up process. Articles were excluded if 1) they did not include both search concepts; 2) they did not feature primary data collection (i.e. included only secondary photographic datasets); 3) participants were not actively involved in the photography process during data collection (e.g. automated cameras were used); 4) they did not include follow-up qualitative dialogue with participants following the participatory photography stage. All records were screened independently by two authors according to eligibility criteria. Title and abstract screening were followed by the retrieval and screening of full-text articles. Inter-rater agreement was high, with only six referrals that were subsequently resolved through discussion between screening authors. Data charting was completed by three authors with key information extracted into an excel file, including study aims, location, research design, population and sampling, food environment typologies studied, study outcomes and findings, as well as key aspects related to the methodology (e.g. types of methods used, type of camera used, degree of participant training, degree of participation in the research process and whether photos were used for advocacy purposes). The extracted information was analysed descriptively, we also identified common and divergent themes within the twenty-eight studies.

Figure 2



A flowchart detailing the review process.

In the next section, we present our findings and critical reflections on this body of literature. The key characteristics of included studies are synthesised to provide an overview of the field before we address methodological considerations in more detail.

Findings and discussion

In total, 28 articles were included after screening (Figure 2). An overview of key study characteristics is provided (Table 1), along with a curated vignette of four photographs and supporting captions illustrating the diverse food environments and contexts within which participatory photography methods have been applied (Table 2).

Geographical distribution

Geographically, eighteen articles (64%) featured studies located in high-income countries, of which the majority (n = 12) were from North America. Ten articles (36%) featured studies located in low- and middle-income countries (LMICs), of which the majority were from Africa (n = 8), with two studies from Asia, both located in India. The considerable proportion of studies from LMICs is a welcome addition to the food environment

Table 1

Characteristics of studies.

ID	Lead author	Aim	Country/ region	FE type	Framing of methodology	Additional mixed methods (if applicable)	Camera type	Population	Degree of participation
1	Almughamisi et al.[1]	Informing obesity intervention	Saudi Arabia	School FE, retail FE and home FE	Group concept mapping (with adults); Photovoice-enhanced concept mapping (with students)	Informed concept maps	Not described	Adolescents (n = 15) and adults (teaching staff, parents) (n = 19)	Research design (yes), data collection (yes) analysis/ themes (yes) and advocacy (no)
2	Auma [2]	Understand factors influencing dietary practices	Uganda	Neighbourhood FE (transitioning settings)	Photovoice	Mixed method — qualitative photovoice, quantitative diet practices survey	Not described	Adult (women) (n = 18)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (no)
3	Browne [4]	Methodological evaluation	Ireland	School FE	Photovoice and peer-led focus groups, alongside food diaries and anthropometry	Mixed method — PP, peer-led focus groups and anthropometry	Disposable	Adolescents (in secondary school) (Photovoice participants, n = 14; FGD, n = 54)	Research design (yes), data collection (yes) analysis/themes (yes) and advocacy (no)
4	Cueva [10]	Describe a community-based obesity prevention initiative	United States	School and cultivated (school garden programme) FE	Photovoice	PP main method	Disposable	Children (n = 44)	Research design (yes), data collection (yes) analysis/themes (yes) and advocacy (no)
5	Gangemi [12]	Understand FE perspectives and impacts on dietary behaviour	United States	School FE	Photo-elicitation	PP main method	Digital or disposable	Adolescents (urban) (n = 20)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (no)
6	Gravina [14]	Understand the influence of FE on dietary behaviours	Spain	Local FE	Photovoice	PP main method	Digital or smartphone	Adults (residents of 3 different SES neighbourhoods) (n = 23)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (yes)
7	Gravina [15]	Describe narratives about FEs	Spain	Local/ community FE	Photovoice	PP main method	Digital or smartphone	Adults (residents) of Madrid (n = 24) and Bilbao (n = 17)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (yes)
8	Hanemaayer [16]	Perceptions of and experiences with traditional foods	Canada	Local FE	Photovoice	PP main method	Digital camera	Adolescents/ young adults (n = 5)	Research design (yes), data collection (yes) analysis/themes (yes) and advocacy (yes)
9	Hanemaayer [17]	Understand the determinants of dietary behaviours (food choice) and	Canada	Local FE	Photovoice	PP main method	Digital camera	Adolescents/ young adults (n = 5)	Research design (yes), data collection (yes) analysis/themes (yes) and advocacy (yes)

Table 1 (*continued*)

ID	Lead author	Aim	Country/ region	FE type	Framing of methodology	Additional mixed methods (if applicable)	Camera type	Population	Degree of participation
		opportunities for actions							
10	Hines [19]	Explore features of the FE, determinants of dietary behaviours (barriers and facilitators)	United States	Neighbourhood FE	Photovoice	PP main method	Not described (although must be digital)	Adults (hypertensive) (n = 24)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (yes)
11	Hopkins [20]	Understand the perceptions of the FE, barriers and facilitators of health eating (dietary behaviours)	United States	Urban neighbourhood FEs	PP	PP main method (and geotagging)	Not described	Adults (caregivers, low-income neighbourhood) (n = 10)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (no)
12	Anna [21]	Explore the experiences of FE	Denmark	Local FE	Photo-elicitation	PP main method	Smartphone (although given the choice to also use digital)	Adults (residents) (n = 10)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (yes)
13	Kamdar [22]	Experiences of food insecurity	United States	Home FE	Photo-elicitation	Mixed method PP and food insecurity- scale survey	Digital camera	Adults (low-income caregiver veterans) (n = 17)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (no)
14	Kitching et al., [23]	Explore the experiences of desire for healthy and unhealthy foods and the role of FE	Ireland	Neighbourhood FE	Participatory photomapping	Participatory mapping	Not described	Adolescents (urban, working-class neighbourhood) (n = 39)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (no)
15	Liguori [24]	Understand the influence of individual factors on dietary behaviours	Ghana	Urban neighbourhood FE	Photovoice	PP main method	Not described	Adolescents and adult women (n = 64)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (yes)
16	Lindow [25]	Explore the experiences of food insecurity and impact on the ability to provide food to family, and management strategies	United States	Community FE, retail FE, cultivated FE and home FE	Photovoice (adapted)	PP main method	Smartphone	Adults (caregivers, low income) (n = 17)	Research design (no), data collection (yes) analysis/themes (limited — no validation session) and advocacy (limited)

Table 1 (*continued*)

ID	Lead author	Aim	Country/ region	FE type	Framing of methodology	Additional mixed methods (if applicable)	Camera type	Population	Degree of participation
17	Malova [26]	Understand the determinants of dietary behaviours (food choice)	United States	School (university) FE	Photovoice	PP main method	Not described	Adults (graduate students) (n = 6)	Participants are the research team research design (yes), data collection (yes) analysis/ themes (yes), and advocacy (yes)
18	O'Halloran [28]	To profile home, community and school FEs	South Africa	School, home and community FE	Photovoice	Mixed methods — photocapture as well as KII, tuck shop purchase observations and quantitative household and student survey	Disposable camera	Adolescents (primary school) (n = 25 for photo taking); quantitative surveys (households) (n = 102), students (n = 152); key informant interviews (school principal) (n = 1)	Research design (no), data collection (yes) analysis/themes (no) and advocacy (no)
19	Osei-Kwasi [29]	To develop, validate and evaluate a framework of factors influencing dietary behaviours within FEs to inform research and intervention	Africa	Urban neighbourhood FE	Photovoice	Evidence synthesis, expert consultation and PP evidence — integrated to build a conceptual framework	Digital camera	Adolescents and adults (urban, low income across 3 African cities, Accra, Ho and Nairobi) (n = 142)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (yes)
20	Pradeilles [32]	Understand physical FE influence on dietary behaviours	Ghana and Kenya	Urban neighbourhood FE (physical FE)	Photovoice	PP main method	Digital camera	Adolescents and adults (urban, low income across 3 African cities, Accra, Ho and Nairobi) (n = 142)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (yes)
21	Prowse [33]	Explore awareness and reactions to food and beverage marketing around public sports and recreation areas	Canada	Sports and recreation FEs	Reflexive photo-interviewing	PP main method	Not described	Adults (caregivers, enrolled in physical activity programme) (n = 17)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (no)
22	Sandha, Holben [35]	Understand the perceptions of summer FE	United States	Community FE (summer)	Photovoice	PP main method	Digital and disposable	Adolescents (in summer school programme) (n = 5)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (no)

Table 1 (*continued*)

ID	Lead author	Aim	Country/ region	FE type	Framing of methodology	Additional mixed methods (if applicable)	Camera type	Population	Degree of participation
23	Simpson et al. [36]	Document the difficulties in healthy food access and measure youth empowerment	United States	School FE, community FE and home FE	Photovoice	PP main method (with measurement of youth empowerment)	Digital camera	Adolescents (low-income families) (n = 63)	Research design (no), data collection (yes) analysis/themes (yes), and advocacy (yes)
24	Spires [37]	Understand the perceptions of FE and how these impact dietary behaviours	South Africa	Community FE, cultivated (home food-growing) FE	Photovoice	PP main method	Digital camera	Adults (type-2 diabetic) (n = 17)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (no)
25	Srinivasapura Venkateshmurthy [38]	Explore the experiences of UPFs	India	Community FE (UPF environment)	Photovoice	PP main method	Digital camera	Adults (women, self-help groups) (n = 22)	Research design (yes), data collection (yes) analysis/themes (yes) and advocacy (yes)
26	Trübswasser [39]	Explore the factors influencing dietary behaviours	Ethiopia	School FE, home FE and neighbourhood FE	PP	PP main method	Digital camera	Adolescents (n = 26)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (no)
27	Turner [42]	Understand drivers of dietary behaviours (food acquisition)	India	Community FE	Participatory photomapping	PP main method (with geotagging and photomapping)	Smartphone	Adults (peri-urban) (Q-GIS and participatory photomapping, n = 22); in-depth interviews, n = 18; focus group discussions, n = 94	Research design (no), data collection (yes) analysis/themes (no) and advocacy (no)
28	Wanjohi [46]	Explore community perceptions of social FE on dietary behaviours	Ghana and Kenya	Community FE (social FE)	Photovoice	PP main method	Digital camera	Adolescents and adults (urban, low income across 3 African cities, Accra, Ho and Nairobi) (n = 142)	Research design (no), data collection (yes) analysis/themes (yes) and advocacy (yes)

Abbreviations: Q-GIS, qualitative geographical information systems; SES, socio-economic status.

Table 2

A curated vignette of four photographs and supporting captions from included studies.

Lead author	Location	Caption	Photograph
Isaacs et al. [21][a]	Copenhagen, Denmark	*This store has no packaging and is all organic. This is the only place in Vesterbro that allows this kind of purchasing (Karla).*	
Kamdar et al. [22][b]	Houston, Texas, USA	*Strategies: Ramen noodles are fast, filling, and affordable. Stocking up on a 10 for $1 sale.*	
Pradeilles et al. [32][c]	Ho, Kenya	*'When you get to the school, this is at the roadside and we buy from there. There is one on the school compound but I don't buy from there because they have not kept the place well. And the place I thought was good and I have been buying food from, this is how to looks. It is even worse than the one on the school compound.' [Female, 18 years, low SES, H4]*	

Table 2 (*continued*)

Lead author	Location	Caption	Photograph
Spires et al. (2023)[d]	Rural South Africa	*'Distance' (rural). 'It is difficult for me to eat healthy because the stores are far. So I have to spend money on transport. The spaza shop do not sell healthy food. Even the distance to fetch water is too far'.*	

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literature, with recent systematic reviews having called for the prioritisation of low-income and lower–middle-income countries, given the paucity of evidence from these settings and the pressing public health nutrition challenges at hand [41]. This finding reflects the wider trend towards the use of participatory research methods within development and public health research, as well as the ability of participatory photography to capture the complex and dynamic nature of food environments and food acquisition and consumption practices in these settings [40]. Several of the included articles demonstrate how participatory photography enables people to voice and visualise their lived experience of diverse food sources in LMICs — including formal and informal markets, own production, wild food harvesting and food transfers — and further reveal how tacit forms of contextualised knowledge and understanding related to these food sources drive food acquisition practices [2,32,39,42].

Publication journals

Articles were predominantly published in public health (n = 13; 46%) and nutrition- (n = 9; 32%) focused journals. Almost all articles (n = 26) primarily sought to report on empirical findings. Two notable exceptions included one article reflecting on the merits of multiple participatory methods [4], and one conceptual article informed by evidence from a participatory photography study [29].

Research foci

Most articles aimed to understand how various dimensions of the food environment influence individual food acquisition and consumption practices (n = 14; 50%). A select few articles were more targeted in their approach and were concerned with how experiences of food environments influence food insecurity [22,25] and obesity interventions [1,10]. Others focused on specific food types (e.g. ultra-processed foods (UPF) or traditional foods) [16,38] or food environment dimensions, such as marketing [33] and desirability [23]. Only one study measured dietary intake [2], suggesting that the potential to triangulate qualitative lived experience data from participatory photography with quantitative data from more traditional assessments remains underutilised at present. Five articles took a broader exploratory approach, seeking to capture narratives around the lived experience of food environments, without necessarily being tied to impacts on dietary behaviours or other nutrition and health outcomes [1,14,21,35,36]. The broad range of research foci explored within the literature showcases the utility of participatory photography as a methodological approach.

Food environment typologies studied

Collectively, this body of literature spanned a range of food environment typologies. Categorising by primary focus, eighteen articles (64%) addressed the local scale, using terminology such as the local, neighbourhood or community food environment, whilst eight articles (29%) focused on school food environments, one (4%) addressed the sports and recreation food environment, and one (4%) addressed the home food environment. Within these broad-based typologies, several articles featured a more specific focus, for example, on cultivated food environments such as school, community or home gardens (n = 3) [10,25,37], retailing environments (n = 2) [25,32] or UPF within the food environment (n = 1) [38]. Whilst most articles primarily focused on a particular food environment typology, in practice, many addressed multiple typologies and scales when unpacking and presenting findings, reflecting both the inherent complexity of food acquisition and consumption practices as part of daily life, as well as the ability of participatory photography to capture these experiences.

Populations of interest

Adults were featured in thirteen articles (46%), adults and adolescents in seven (25%) and adolescents only in a further seven (25%), with just one article including children. Most studies included sample sizes of twenty to thirty participants, broadly in line with what might typically be expected from this type of in-depth qualitative research. A few notable exceptions featured larger numbers of participants [10,36], including several articles from a large multi-country study that drew from a total sample of 142 participants across food environments in three African cities [24,29,32,46]. The use of participatory photography to engage harder-to- reach or marginalised groups was a common theme, building on prior instances from the wider literature [3,11,13,30,31,34,43]. Examples included those on low incomes, caregivers, veterans, those with pre-diagnosed health issues such as hypertension or type-2 diabetes, and those enrolled in self-help groups or physical activity interventions.

Methodological considerations

Terminology

'Photovoice' was the dominant methodological framing (n = 20; 71%). Other terms included 'photo-elicitation' (n = 3), 'participatory photography' (n = 2), 'participatory photomapping' (n = 2), and 'photo interviewing' (n = 1). The popularity of the term 'photovoice' reflects the importance and influence of the seminal works by Wang and Burris [44] and Wang [45] that set out 'photovoice' as a methodology for applied action research, and which featured practical guidance for research design, data collection and analysis. However, it is worth noting that in practice, many studies referred to 'photovoice' as a catch-all term for participatory photography featuring photo-elicitation techniques, with adaptations of this approach typically more common than strict adherence to the Wang and Burris [44] approach.

Methodological designs

Participatory photography was found to be the primary method of data collection in most studies (n = 20). However, several studies incorporated participatory photography as one component of broader mixed methods approaches. Amongst these, four studies included the integration of a participatory mapping element, whereby participants' photographs were geotagged and mapped, creating various forms of geo-narrative maps for inclusion along with photographs in follow-up interviews [1,20,23,42]. Two studies combined participatory photography with quantitative surveys that captured demographic and food insecurity data [22], or dietary intake data [2]. Others combined participatory photography with direct observations, surveys and key informant interviews [28]. In addition, one novel approach included the use of participatory photography data as part of an evidence synthesis and expert consultation designed to develop a conceptual framework for urban food environments in Africa [29]. These diverse study designs demonstrate how participatory photography is particularly suited to mixed methods research, allowing participants and researchers to triangulate multiple sources and types of data and thereby build a comprehensive picture and in-depth understanding of the lived experience of food environments and food acquisition practices.

Camera devices and participant training

Most studies provided participants with digital cameras (n = 14), whilst others provided smartphones (n = 5) or disposable cameras (n = 3). Eight articles did not describe the type of camera device used — an oversight in the reporting of methods. Almost all articles reported the provision of participatory photography training for participants, with most providing one training session (n = 18), whilst fewer (n = 5) held multiple sessions. Training typically involved introducing participatory photography as a research method, practicing taking photographs, discussing interpretation skills and techniques as well as briefing participants around the ethical considerations related to taking photographs, including safety precautions and the need to obtain informed consent. Four articles did not describe any form of training, and only one reported providing no training to participants. We would like to call for more detailed reporting and critical reflection on camera devices, participant training and ethics given the fundamental importance of these aspects to participatory photography methods and the opportunity for collective learning from best practices and lessons learned from fieldwork. Bespoke reporting guidelines should be considered for

participatory photography methods to ensure more robust and consistent reporting that would increase the transparency, replicability, reliability and validity of findings. One potential approach would be to adapt established standards such as the 'Consolidated criteria for reporting qualitative research', informed by the most recent ethical frameworks designed to guide practice on the use of imagery in global health [5]. Capturing and reporting participants' experiences of the research process would be particularly insightful and encourage reflexive practice in the design and implementation of participatory photography methods.

Degree of participation in the research process

Overall, there was substantial variation in the degree of participation in the research process beyond the criteria of inviting participants to photograph their food environment. Seven articles reported the involvement of participants in the research design, typically through consultations to understand the challenges faced by communities, although in one notable study, participants were also the research team [26]. Most studies (n = 25; 89%) involved participants in the analysis process, typically by inviting them to generate themes in groups or by captioning their own photographs. In other instances, themes were generated by the research team and subsequently reported back to participants for validation. Less than half of the studies (n = 13; 46%) explicitly reported the use of participatory photography for advocacy purposes. Those that did typically showcased participants' photographs, captions and thematic narratives in follow-up photography exhibitions held with stakeholders (including community members, local government and media) in the local community [2,24,32]. Other advocacy activities involved presenting findings to community groups, leveraging findings to inform local resources and interventions [16]. No studies evaluated the degree to which participatory photography had led to interventions or changes in the food environment. However, one notable article measured youth empowerment as a core aspect of the methodology [36], demonstrating how participatory photography has the potential to not only draw attention to the lived experience of a particular food environment, but also help foster the skills and agency of participants as agents of change within that food environment.

Strengths and limitations

This snapshot review is, to the best of our knowledge, the first to address the rapidly emerging body of food environment literature featuring participatory photography methods. The strengths of this review include: 1) the focus on the most contemporary studies from the past two years, providing a timely and concise snapshot of the recent literature in the field; 2) the global scope of the systematic search strategy, allowing for the inclusion of publications from all regions; 3) the identification of 5 articles of special or outstanding interest, including annotated references to guide further reading. We acknowledge several limitations. First, the remit of the Current Opinion journals is to provide concise and timely reviews of the literature published within the previous two years, thus limiting the scope to only the most contemporary publications. Second, although we did not set any restrictions regarding publication language, our search terms were written in English, potentially excluding articles written in other languages. Third, we did not conduct a quality assessment as this was beyond the scope of this type of short review, although we did restrict the search to peer-reviewed literature, providing a degree of quality assurance.

Conclusions

This snapshot review captures current advances in the use of participatory photography methods within food environment research, providing a synthesis and critical commentary on the peer-reviewed literature from 2020 to 2022. The 28 included articles demonstrate the increasing popularity of participatory photography as a method of capturing lived experiences of food environments and drivers of food acquisition and consumption practices globally. Whilst much of the literature shares a common grounding in the seminal work by Wang and Burris [44] and the photovoice methodology, this review highlights the heterogeneity in terms of study design, reflecting both the utility and adaptability of this approach as well as the emergent nature of its application within the field of food environment research. This review has shown how participatory photography is well-positioned to study a broad array of food environment typologies and scales, either as a stand-alone methodology or as part of wider mixed methods approaches. Consumers have been the focal point within the literature to date, whilst the potential to widen the aperture to cast light on other actors remains untapped. Future studies with diverse actors involved in food production, storage, transformation, transportation, provisioning and waste may offer novel perspectives on food environments and broader dimensions of sustainability within the wider food system. Going forward, we recommend that researchers and practitioners revisit the roots of participatory photography as a participatory action research strategy, so that future studies may engage participants as agents of change in their food environment in support of the sustainable transformation of food systems and improved diets, nutrition and health.

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CRediT authorship contribution statement

Christopher Turner: Conceptualisation; Data curation; Formal analysis; Project administration; Supervision; Validation; Writing – original draft; Writing – review & editing. **Leah Salm**: Conceptualisation; Data curation; Formal analysis; Validation; Writing – original draft; Writing – review & editing. **Mark Spires**: Conceptualisation; Data curation; Writing – review & editing. **Amos Laar**: Conceptualisation; Writing – review & editing. **Michelle Holdsworth**: Conceptualisation; Data curation; Writing – review & editing.

Data Availability

No data were used for the research described in the article.

Declaration of Competing Interest

None.

Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.cosust.2023.101364.

References and recommended reading

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