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To cite this article: Madison Stephens, Eleanor Keiller, Maev Conneely, Paul Heritage, Mariana Steffen & Victoria Jane Bird (2023) A systematic scoping review of Photovoice within mental health research involving adolescents, International Journal of Adolescence and Youth, 28:1, 2244043, DOI: [10.1080/02673843.2023.2244043](https://doi.org/10.1080/02673843.2023.2244043)

To link to this article: <https://doi.org/10.1080/02673843.2023.2244043>



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# A systematic scoping review of Photovoice within mental health research involving adolescents

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## ABSTRACT

Photovoice is a research method that changes perceptions of mental health. However, there is a lack of evidence exploring how Photovoice is used in mental health research involving adolescents. Our review aimed to understand the nature and key themes across findings of Photovoice studies exploring mental health among adolescents. We used pre-existing data and updated a search strategy. Popay and colleagues' guidance was used to analyse the studies and the quality of each study was appraised. Our review found that Photovoice studies exploring mental health among adolescents are limited in quality and that Photovoice is a flexible, adaptable, inclusive, and emerging method. Coping; resilience; beliefs about oneself; family; friends; safety; living in a lower socioeconomic area and treatment emerged as key themes across study findings. Our review is the first of its kind and highlights ways Photovoice studies in the future can be developed and is helpful to multiple stakeholders.

## ARTICLE HISTORY

Received 15 May 2023  
Accepted 28 July 2023

## KEYWORDS


Photovoice; adolescents; mental health; research; methods; participatory research


## Introduction to Photovoice

### *Introduction to Photovoice within research*

Photovoice is a research method (Han & Oliffe, 2016) that uses photography and narrative (Mooney & Bhui, 2023) and was developed by C. Wang and Burris (1997) to explore the experiences of marginalized Chinese women. Photovoice research is designed around three steps: (1) Participants are trained by facilitators on the use of cameras, ethics and power prior to collecting photographs; (2) participants discuss and reflect upon photographs during a group discussion and (3) participants analyse the data (C. Wang & Burris, 1997). Freire's (1970) theory of critical consciousness, feminism and notions of voice and participatory documentary photography underpin Photovoice (C. C. Wang et al., 2004) which places emphasis on amplifying participants' voices and fostering change.

Participants involved in Photovoice research creatively express themselves (Cosgrove et al., 2023) by visually presenting their surroundings using photographs (Czesznek, 2021) in a way that transcends the limitations of narrative (C. Wang & Burris, 1997). Photovoice can generate insights that are emotional and metaphoric (Wass et al., 2020) that are not as accessible using other qualitative methods (McLaughlin & Coleman-Fountain, 2019). Notably, Guell and Ogilive (2013) claim that Photovoice produces knowledge that is more nuanced and rich compared to insights generated

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 Supplemental data for this article can be accessed online at <https://doi.org/10.1080/02673843.2023.2244043>

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through interviews, making Photovoice advantageous over approaches relying solely on verbal and written data (Levin et al., 2007). For instance, Byrne (2012) highlights how populations who may find verbal communication difficult, including those affected by mental ill-health, can utilize Photovoice as a compelling method to amplify their voices.

Researchers who engage in community-based participatory research often use Photovoice (Lofton and Grant, 2021), in descriptive study designs (Badanta et al., 2021). Researchers have previously used Photovoice to explore the experiences of marginalized communities affected by HIV/AIDS (Earnshaw et al., 2023); homelessness (Mollica et al., 2023) and war (Feen-Calligan et al., 2023). Photovoice is a relevant method for research involving under-served communities which empowers participants (Mental Health Foundation, 2021; Schnittker, 2013) by increasing awareness of their surroundings (Budig et al., 2018) and re-distributing power (Wallerstein et al., 2019).

Unlike many other research methods, Photovoice allows participants to engage and lead in all stages of Photovoice research, highlighting a democratic approach (Kimera & Vindevogel, 2022). Democratic research is important in ensuring that research aligns with public needs (Pamuk, 2020) and Photovoice studies succinctly communicate individuals' priorities and community strengths and weaknesses (Teti et al., 2012). In turn, participants involved in Photovoice research can raise awareness of issues, influence policymakers (C. Wang & Burris, 1994) and stimulate change by shaping and developing policies and guidelines that appreciate the views and needs of individuals involved in Photovoice research (Smith et al., 2023).

### **Photovoice in mental health research involving adolescents**

Scholars advocate Photovoice in research examining mental health, including depression, anxiety, and bipolar disorder (Han & Oliffe, 2016). Barry et al. (2021) suggest that Photovoice can promote public awareness surrounding mental health, whilst Flanagan and Flanagan et al. (2016) highlight how Photovoice can challenge negative stereotypes and reduce mental health stigma.

Photovoice may be a relevant method to explore mental health among adolescents who endure significant mental health stigma (Kaushik et al., 2016) and lack power (Wang et al., 1996). Moreover, adolescents are enthusiastic and committed to engaging in Photovoice research (Evans-Agnew et al., 2022) which may reflect their interest in producing photographs (Butschi & Hedderich, 2021). This could explain why adolescents find Photovoice research 'fun' (S. Wass & Safari, 2020) compared to traditional methods which adolescents can find dull (Nuffield Council on Bioethics, 2015).

Despite the compelling strengths of Photovoice, evidence to support its use in research involving adolescents is lacking (Butschi & Hedderich, 2021) and may reflect the under-representation of adolescents in mental health research (Mawn et al., 2016). Consequently, more research exploring the use of photovoice in mental health research involving adolescents is needed (Velez-Grau, 2019). However, a traditional systematic review approach is not appropriate in addressing this gap given the paucity of available evidence. Instead, our review will address this paucity of evidence by scoping the available evidence and answering two research questions.

### **Research aims of our scoping review**

- (1) What are the characteristics of photovoice studies exploring mental health among adolescents?
- (2) What are the main themes in the findings of Photovoice studies exploring mental health among adolescents?

### **Methods**

Prior to conducting this review, we registered a protocol (CRD42022336458) on PROSPERO which is available via: [https://www.crd.york.ac.uk/prospero/display\\_record.php?RecordID=336458](https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=336458). We

structured and reported our review according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist (Tricco et al., 2018) (see supplementary material 1 for the checklist).

### **Eligibility criteria**

The inclusion criteria were: studies that recruited participants between ten and 19 years old, based on the World Health Organisation (2021) definition; studies where the mean age of participants fell between ten and 19, and studies that provided separate data sets for this age range were also included; studies that explicitly stated the use of Photovoice as a method were included in the review; studies conducted in all countries, written in any language which explored mental, social, emotional, and psychosocial health and needs were also included.

Only primary studies that were published in peer-reviewed journals and grey literature were included. The review specifically focused on primary data, therefore book chapters, systematic reviews, dissertations, abstracts, comments, and editorials were excluded. Quantitative studies and mixed-method studies which did not provide separate qualitative data were excluded as our review subscribed to an interpretive paradigm that did not aim to generate effect sizes.

### **Search strategy**

We identified relevant studies from a pre-existing data extraction table which was part of a broader systematic review that explored the use of Photovoice in adolescent research (Burn et al., manuscript in preparation). Burn and colleagues' review was similar in aim and yielded over 100 papers. We used the pre-existing data to avoid replicating research and to devote more resources to identifying qualitative papers focused on adolescent mental health research.

To ensure the identification of all relevant papers, we repeated the search on the 15th of June 2022 and again on the 9th of May 2023. An academic librarian peer-reviewed and approved the search strategy which contained keywords related to adolescents, photovoice and action research. We employed the search across five electronic databases: PSYCHinfo, PubMed, Scopus, Web of Science and CINAHAL. We also hand-searched the reference lists of relevant studies as well as relevant journals such as the International Journal of Adolescence and Youth as well as Google and Google Scholar and grey literature databases. A copy of the full search strategy can be found in supplementary material 2.

### **Selection process**

We screened the titles and abstracts of studies within the data extraction table according to the above eligibility criteria. Studies that met the eligibility criteria underwent full-text review. Alongside this, we imported studies from the updated search into the reference management software, Rayyan, where duplicates were removed. Next, MS independently screened the titles and abstracts of all studies according to the above eligibility criteria. A full-text review was undertaken for studies that met the eligibility criteria. EK, a second reviewer, independently screened 25% of the studies at each stage with discrepancies of opinion being resolved by VJB, a third independent reviewer.

### **Data extraction and analysis**

To answer the research questions, we synthesized and analysed data according to (Popay et al., 2006) guidance for narrative synthesis. To answer research question one, *'What are the characteristics of photovoice studies exploring mental health among adolescents?'*, MS extracted and tabulated contextual information from eligible studies into a pre-specified Excel spreadsheet which can be found in Table 1. We also visually represented the distribution of data across geographies and time.

To answer research question two, *'What are the main themes in the findings of Photovoice studies exploring mental health?'*, MS carried out a manual reflexive thematic analysis outlined by Braun and Clarke (2006) to identify common themes across the study findings. EK independently analysed 25% of the studies using reflexive thematic analysis.

### **Quality appraisal**

We appraised the quality of the studies to understand the calibre of Photovoice studies exploring mental health among adolescents. To appraise the quality of the studies, we used the Critical Appraisal Skills Programme (CASP) qualitative study checklist (2018) and the Consolidated Criteria for Reporting Qualitative Research (COREQ) (Tong et al., 2007). To support the quality appraisal process, Al-Moghrabi et al. (2019) criteria were used which categorize the quality of reporting according to the quantity of COREQ items reported (good ( $\geq 25$  items), moderate (17 to 24 items), poor (9 to 16 items), very poor ( $\leq 8$  items)).

We used these quality appraisal tools to gain and triangulate information related to the quality of the included studies, which we considered appropriate to scope the quality of studies included in this review. MS and EK independently conducted the quality appraisal, with MS appraising 100% of the total studies and EK appraising 25%. Differences of opinion were resolved through discussion with VJB, a third independent reviewer. The quality appraisal of studies included in this review can be found in the supplementary material.

### **Findings and discussion**

From Burn and colleagues (2021) pre-existing data extraction table, we identified seven eligible studies out of 215 studies. From the updated search, we identified 334 studies, of which three met the inclusion criteria. Also, we included two eligible grey literature sources, bringing the total number of included studies in our review to twelve. The source of included studies and reasons for exclusion at each stage of the search process can be seen in [Figure 1](#), the PRISMA Diagram.

### **Characteristics of Photovoice studies exploring mental health among adolescents**

#### **Quality of Photovoice studies exploring mental health among adolescents**

The quality appraisal highlighted variation in the reporting of Photovoice studies examining mental health among adolescents, which is consistent with broader Photovoice studies (Catalani & Minkler, 2010; K. C. Hergenrather et al., 2009). None of the studies met the criteria for good quality, whilst six studies were of moderate reporting quality, and four were assessed as poor reporting quality. These drawbacks were attributable to recruitment, data collection and reflexivity domains. Despite these shortcomings, most studies stated their aims and objectives, used appropriate qualitative methodology; addressed the research aim using a relevant design and appropriately managed ethical issues.

The variation in quality and reporting among Photovoice studies examining mental health among adolescents may be attributable to researchers' reliance on their own subjective judgement rather than scientific guidance (Bugos et al., 2014). To the best of our knowledge, no guidance exists to support researchers reporting Photovoice studies. This could result in researchers reporting Photovoice studies based on what they think is appropriate, possibly explaining variations in quality seen among the studies in our review.

#### **Geographical distribution of Photovoice studies exploring mental health among adolescents**

[[Figure 2.](#)] Global Geographical distribution of Photovoice studies examining mental health among adolescents.



**Table 1.** Characteristics of studies included within our review.

Name of study	Author(s)	Journal	Publication year	Aims/Research Question	Key themes as described by the authors
Improving health in at-risk youth through Photovoice	Lisa Bashore, Gina K Alexander, D Lynn Jackson, and Paige Mauch	Journal of Child Health Care	2017	To explore the school environmental factors that influence mental and emotional health among adolescents enrolled in an after-school program in an urban middle school.	<ol style="list-style-type: none"> <li>1. Staying healthy</li> <li>2. Stress dealing with anger/frustration</li> <li>3. Maintaining friendships and communication</li> <li>4. Recognising bullying</li> <li>5. Planning for the future</li> </ol> Themes were categorized by levels of the Social-Ecological Model.
Using Photovoice as a Community-Based Participatory Research Method to Identify Perceived Risk and Protective Factors for Depression in Rural Adolescents	Julia Smith Dempsey	International Journal of Nursing and Clinical Practice.	2016	Identify perceived risk and protective factors for depression and to evaluate the relationship between participation in Photovoice and youth empowerment.	<ol style="list-style-type: none"> <li>1. Activity</li> <li>2. Sensitivity</li> <li>3. Creativity</li> <li>4. Spirituality</li> <li>5. Comicality</li> <li>6. Cruelty</li> <li>7. Security</li> <li>8. Responsibility</li> <li>9. Facility</li> <li>10. Morbidity and mortality</li> </ol>

(Continued)

Table 1. (Continued).

Name of study	Author(s)	Journal	Publication year	Aims/Research Question	Key themes as described by the authors
Through our eyes: A photovoice intervention for adolescents on active cancer treatment	Georgi Georgievski, Wendy Shama, Sonia Lucchetta & Mark Niepage	Journal of Psychosocial oncology	2018	To understand the psycho social needs of adolescents on active cancer treatment using a framework developed by the authors.	<ol style="list-style-type: none"> <li>1. Personal strengths</li> <li>2. Social strengths</li> <li>3. Strength in treatment</li> <li>4. Family as true friends</li> <li>5. Changes in friendships</li> <li>6. Making new friends</li> <li>7. Changing within oneself</li> <li>8. Struggles with treatment</li> <li>9. Struggles with oneself</li> <li>10. Struggles because of others</li> <li>11. Watching the outside world</li> <li>12. Fears relating to parenthood</li> <li>13. Fears relating to others</li> <li>14. Fear relating to post-treatment</li> <li>15. Hope of the future</li> <li>16. Hope through faith</li> <li>17. Hope through family.</li> <li>18. Hope from the cancer journey</li> </ol>
Too Young to Be Mad: Disabling Encounters with 'Normal' from the Perspectives of Psychiatrized Youth	Maria Liegghio	Intersectionalities: A Global Journal of Social Work Analysis, Research, Policy and Practice.	2016	What is 'normal mental health' for children and youth?	<ol style="list-style-type: none"> <li>1. Normal is an 'ideal' against which young people are compared</li> <li>2. Normal mental health is ambiguous and shifting</li> <li>3. A counter-narrative that 'normal' includes experiences of distress.</li> </ol>

(Continued)



Table 1. (Continued).

Name of study	Author(s)	Journal	Publication year	Aims/Research Question	Key themes as described by the authors
Discourses of Mental Wellness Among Adolescents Living with HIV in Cape Town, South Africa	Zaida Orth, Brian van Wyk	Psychology Research and Behavior Management	2022	How adolescents living with HIV talk about mental wellness as experienced in their daily lives, and how these mental wellness behaviours are expressed.	<ol style="list-style-type: none"> <li>1. Connectedness</li> <li>2. Spirituality and mindfulness</li> <li>3. Social coherence and awareness</li> <li>4. Self-esteem</li> <li>5. Self-efficacy</li> <li>6. Self-acceptance</li> <li>7. Sense of coherence</li> <li>8. Coping</li> <li>9. Resilience</li> <li>10. Life purpose/goals</li> <li>11. Engaging in enjoyable activities</li> <li>12. Physical functioning</li> </ol>
Exploring coping among urban youth through photovoice	Theda Rose, Tanya L Sharpe, Corey Shdaimah and Dante deTablan	Qualitative Social Work	2018	Explores how coping is defined, perceived, and experienced by adolescents attending a Baltimore City high school, through discussion of students' photographic representations of coping.	<ol style="list-style-type: none"> <li>1. Defining coping</li> <li>2. Coping resources</li> <li>3. Coping strategies</li> <li>4. Evolution and consequences of coping.</li> </ol>
Using Photovoice to examine adolescents' experiences receiving mental health services in the United States	Carolina Ve'lez-Grau	Health Promotion International	2019	To provide an opportunity for adolescents to share their expertise and to voice their own perspectives and for researchers and clinicians to gain an understanding of adolescents' life experiences away from the treatment setting, as well as their experience as consumers of mental health services.	<ol style="list-style-type: none"> <li>1. Adolescents' sense of self</li> <li>2. Family</li> <li>3. Suicidal ideation</li> <li>4. Treatment</li> </ol>

(Continued)

Table 1. (Continued).

Name of study	Author(s)	Journal	Publication year	Aims/Research Question	Key themes as described by the authors
Psychosocial challenges and individual strategies for coping with mental stress among pregnant and postpartum adolescents in Nairobi informal settlements: a qualitative investigation	Caroline W. Wainaina, Estelle Monique Sidze, Beatrice W. Maina, Icoquih BadilloAmberg, Hazel Odhiambo Anyango, Faith Kathoka, Dorcas Khasowa and Collins E. M. Okoror	BMC Pregnancy and Childbirth	2021	To describe the triggers to mental stress identified by adolescents and their coping strategies in the informal settlements of Nairobi, Kenya.	<ol style="list-style-type: none"> <li>1. Being chased from home</li> <li>2. Economic hardship</li> <li>3. Neglect/abandonment</li> <li>4. Stigmatization by family, friends and community</li> <li>5. Feelings of shattered dreams</li> <li>6. Daily challenges with living in a slum environment</li> </ol>
It's making us look disgusting ... and it makes me feel like a mink ... it makes me feel depressed: using photovoice to help 'see' and understand the perspectives of disadvantaged young people about the neighbourhood determinants of their mental well-being.	Watson, M and Doulgas, F	International Journal of Health Promotion and Education	2012	To investigate how young people living in socially and economically disadvantaged circumstances in Aberdeen viewed and experienced their local neighbourhood and its impact on their mental well-being and ideas about changes they believed could and should be made to ameliorate the problems they identified.	<ol style="list-style-type: none"> <li>1. The importance of perceived investments in the local area.</li> <li>2. Notions of individual and collective access to various forms of capital</li> <li>3. Safety fears</li> <li>4. Suggestions to improve their local area.</li> </ol>
Understanding Youth's Lived Experience of Anxiety through Metaphors: A Qualitative, Arts-Based Study	Roberta Lynn Woodgate, Pauline Temment and Nicole Legras	International Journal of Environmental Research and Public Health	2021	To provide a platform to amplify youth's lived experience of anxiety, highlighting their use of metaphors as a communicative tool with the ability to translate knowledge across barriers between researchers, clinicians, and members of the public.	<ol style="list-style-type: none"> <li>1. The metaphor of lived space: a shrinking world</li> <li>2. The metaphor of the lived body: The Heavy, Heavy Backpack</li> <li>3. The metaphor of lived time: Play, Pause, Rewind, Forward</li> <li>4. The metaphor of lived relations: A fine balance</li> <li>5. Lived meaning</li> </ol>
Through Our Eyes: A Photovoice Project on the Stigma around Youth Mental Health & Wellness	Nothwest Michigan Community Health Innovation Region's Behavioral Health Initiative. Abby Bowers and Margaret Wozniak	Not applicable	2021	To share adolescents' perspectives and experiences related to mental health, the stigma surrounding it, and recommended actions to address these issues.	Not specified
How to Reduce Stress		Not applicable	2021	Not specified	Not specified

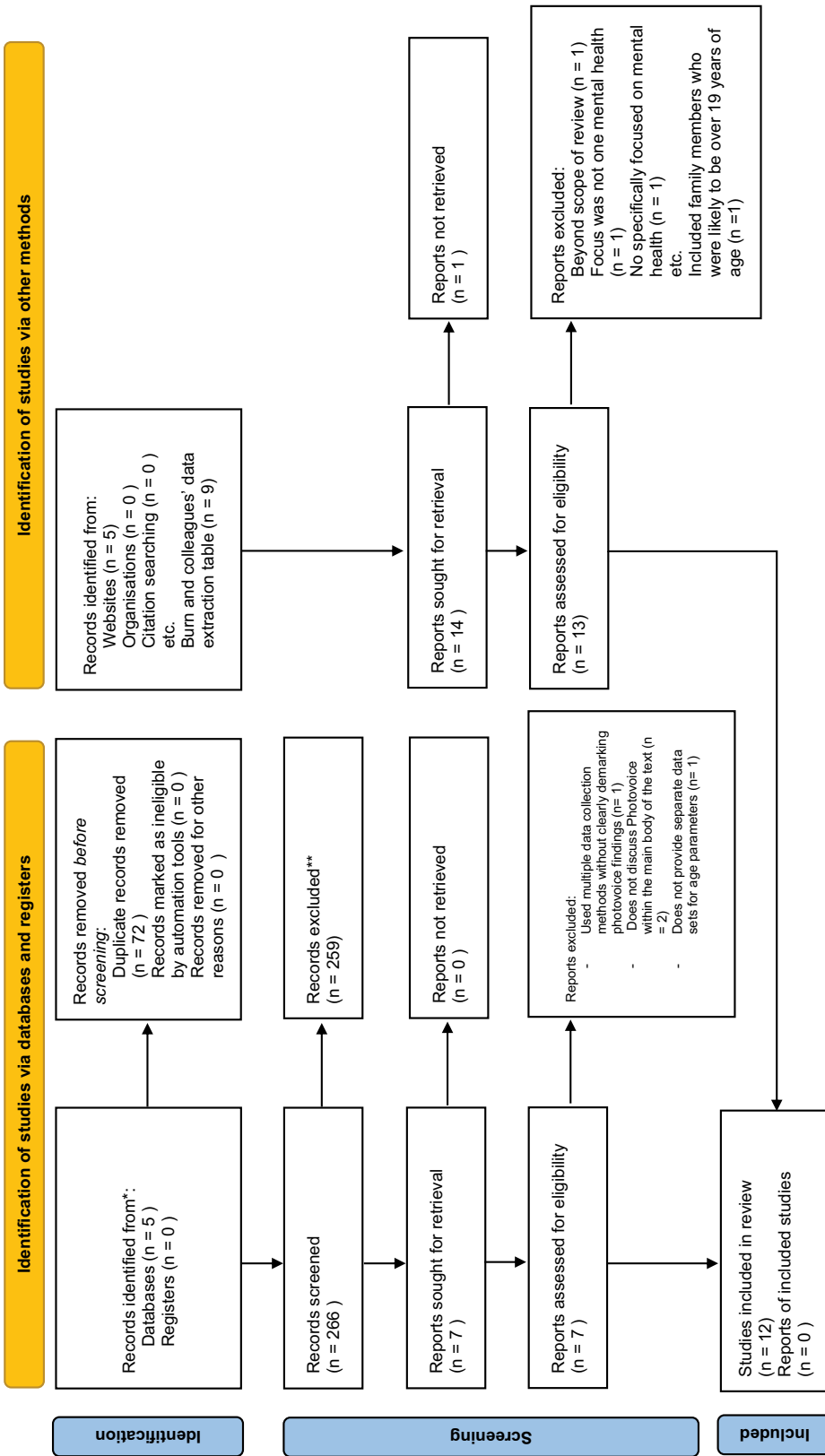
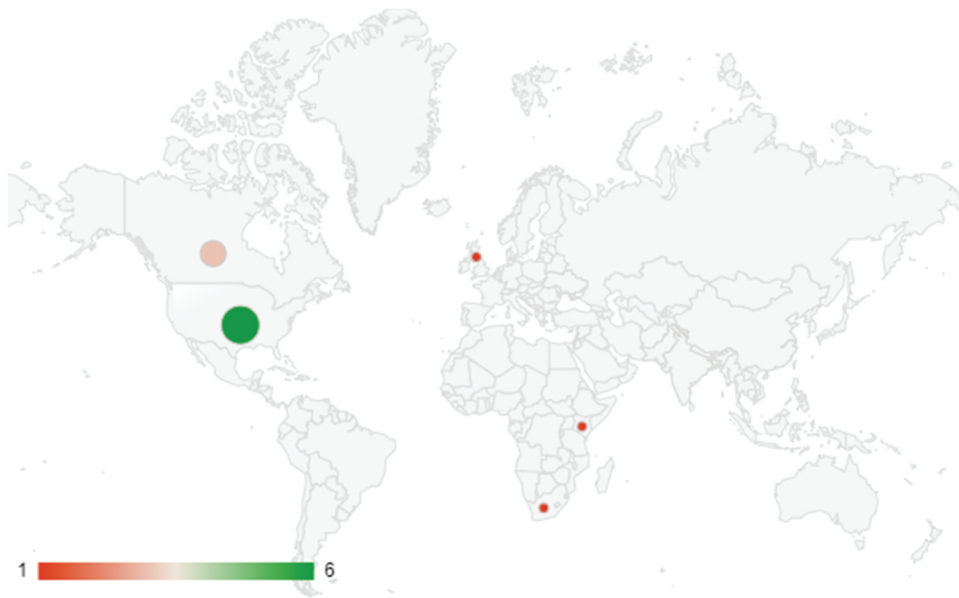


Figure 1. PRISMA 2020 flow diagram representing the flow of data throughout our review.



**Figure 2.** Global distribution of Photovoice studies exploring mental health among adolescents.

Researchers conducted ten Photovoice studies examining mental health among adolescents in high-income countries (HICs) as per The World Bank's (2022) classification. Nine studies were conducted in North America (U.S.A. ( $n=6$ ), Canada ( $n=3$ )), whilst another was conducted in Europe (UK). Two studies were conducted in low-and middle-Income Countries (LMICs) across Africa (Kenya and South Africa). Our finding is consistent with broader Photovoice research (see O'Donovan et al., 2019) and this trend could be attributable to the pioneering efforts of North American researchers in the use of arts-based research methods (Prosser & Loxley, 2008). Our findings also echo the over-representation of populations from the Global North in health research (World Health Organisation, 2013) and the under-representation of adolescents from LMICs (Klasen & Crombag, 2013).

Researchers in LMICs experience barriers to producing high-quality research (Shumba & Lusambili, 2021), such as a lack of funding to conduct mental health research (Patel et al., 2018). These issues may be compounded and reinforced within Photovoice research, which can be expensive (Julien et al., 2013) due to the cost of purchasing cameras and reproducing photographs (Coemans et al., 2019).

Moreover, disparities in the prioritization of mental health across and within HICs and LMICs may explain differences in the global distribution of studies. For instance, the prevalence of communicable diseases such as HIV and malaria, is higher in LMICS, accounting for 65% of the total disease burden (Coates et al., 2021), resulting in the diversion of resources away from mental health research (Rathod et al., 2017). Consequently, LMIC governments often fail to allocate resources towards research (Shumba & Lusambili, 2021) potentially impacting the feasibility of conducting Photovoice studies in LMICs. As a result, the over-representation of HICs across Photovoice studies exploring mental health among adolescents may limit the generalizability of findings to adolescents in LMICS.

#### ***Urban/rural distribution of Photovoice studies examining mental health among adolescents***

Although researchers did not describe the context of two studies was not described, nine Photovoice studies examining mental health among adolescents were conducted in urban contexts, with Dempsey (2016)'s study conducted in a rural setting. This trend is typical of Photovoice studies (G.

Moore et al., 2008) and reflects the affiliations of the primary authors of studies included in our review with research institutions located in urban locations. Urban areas have a higher concentration of research institutions and researchers (Fritsch & Wyrwich, 2021) which may bolster the feasibility of conducting Photovoice studies in such areas.

In comparison, rural populations experience barriers to participating in research, such as a lack of transportation (Levy et al., 2017) that likely hinders Photovoice studies from being conducted. Furthermore, cities have a younger population (Striessnig et al., 2019) that is at greater risk of mental ill-health compared to rural populations (Gruebner et al., 2017), which may shape and influence where Photovoice studies examining mental health among adolescents are conducted. As a result, findings from Photovoice studies exploring mental health among adolescents may not be less generalizable to adolescents in rural settings.

### ***Methods uses within Photovoice studies examining mental health among adolescents***

Two studies did not specify whether they had used other methods alongside Photovoice to examine mental health among adolescents, indicating a lack of transparency in the reporting of methods used. In comparison, seven studies reported using photovoice as a standalone method, while three studies combined Photovoice with other qualitative and arts-based methods, including interviews and creative writing. Our finding suggests that Photovoice is an adaptable research method (Lal et al., 2012) that addresses diverse research interests (Catalani & Minkler, 2010) and highlights the inherent flexibility of participatory methods (Gaboardi et al., 2022). Our findings suggest that Photovoice could be a useful method in the field of adolescent mental health that can be used independently or alongside traditional and novel methods.

### ***The objective of Photovoice studies exploring mental health among adolescents***

Nine Photovoice studies focused on examining social determinants of adolescent mental health, while three studies had more abstract objectives, including understanding adolescents' use of metaphors to describe experiences of mental health. Our finding may be unsurprising given scholars' increased adoption of the social determinant paradigm (Alegria et al., 2018; Rotter et al., 2022), which could have determined the type of knowledge sought by researchers whose studies were included in our review.

Furthermore, Photovoice empowers participants to reflect on and record community strengths and concerns (Liebenberg, 2018) and is likely to have encouraged adolescents in the studies in our review to identify social determinants influencing their mental health. It is possible that studies examining mental health among adolescents using different methods than photovoice may elicit different findings.

### ***Participation among adolescents involved in Photovoice studies examining mental health***

Adolescents within the twelve Photovoice studies examining mental health predominantly participated in collecting and/or analysing photographs which are typical of Photovoice research (Golden, 2020; Strack et al., 2004), including studies involving adolescents (O'Leary et al., 2021). This finding underscores the reflect adolescents' motivation to use a camera (Butschi & Hedderich, 2021) and their perception of Photovoice as 'fun' (S. Wass & Safari, 2020). However, eight Photovoice studies did not report whether adolescents had participated in the dissemination of the research which could be attributable to adolescents' perception of research beyond data collection as dull and difficult (Mawn et al., 2016). It is plausible that adolescents' willingness to participate in Photovoice research examining mental health dwindled across activities that did not involve cameras or analysing photographs.

However, four studies described participants' engagement in disseminating the research, including their participation in selecting photos for an exhibition and film. Whilst this may indicate increased availability of resources compared to that available in other studies, it could also indicate adolescents' willingness to participate in dissemination activities that foster public engagement and

creativity. Together, our finding supports previous work by Australian Infant, Child, Adolescent and Family Mental Health Association (2008) which recognizes the variability in adolescents' engagement in research.

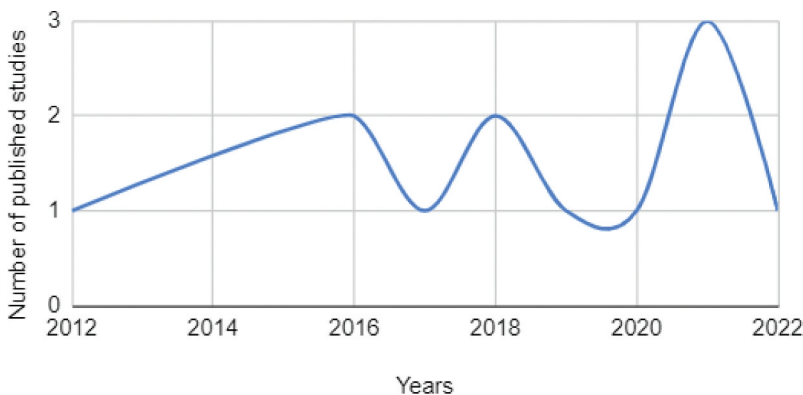
### ***Photographs collected by adolescents involved in Photovoice studies exploring mental health***

None of the researchers quantified the total number of photographs collected or analysed by the adolescents involved in the Photovoice research. Similarly, five researchers did not describe the type of camera used by participants to capture photographs. Although, four researchers reported the use of disposable cameras; two reported the use of digital cameras, and one reported the use of mobile phones. A lack of reporting stipulating the camera technology used.

The lack of reporting describing the camera technology challenges our understanding of the extent of adolescents' participation in Photovoice studies examining mental health. The number of photographs a camera can capture varies by model (PhotoVoice, 2020), with mobile phones having the capacity to capture almost unlimited photographs (Hartnell-Young & Heym, 2008) compared to disposable cameras that are limited to capturing 28 photographs (Petersen & Martin, 2021). Therefore, the type of camera used within Photovoice studies could influence the collection and subsequent analysis of photographic data. Thus, researchers should report the type of camera equipment used in Photovoice studies as the number of photos collected by adolescents in Photovoice studies exploring mental health could be interpreted as a proxy for participation.

### ***Use of photos collected by adolescents in Photovoice studies examining mental health***

Seven studies incorporated participants' images within the published manuscript, although none of the studies reported adolescents' involvement in selecting which photographs were chosen for publication. This finding is consistent with other sources (Evans-Agnew & Rosemberg, 2016) and suggests that adolescents in Photovoice studies examining mental health are excluded from the decisions made related to the manuscript. Alternatively, the omission of information surrounding the method and individuals responsible for selecting photos could be due to word count limits imposed by journals, which can limit the description within research manuscripts (Ross & Bibler Zaidi, 2019). Nevertheless, the lack of reporting on how adolescents involved in Photovoice studies examining mental health have been involved in the selection of photographs for publication has significant implications, as community-based participatory research emphasizes engaging and recognizing participants in research publications (Israel et al., 2012).



**Figure 3.** Number of Photovoice studies exploring mental health among adolescents over.

### ***Publication of Photovoice exploring mental health among adolescents over time***

As Figure 3 shows, researchers have published limited Photovoice studies examining mental health among adolescents since 2012, with the majority of these studies being published in 2021. This trend echoes the novel use of arts-based methods within research (Leavy, 2020) which has been developing for over twenty years (Papoulias, 2018). Previously, mental health researchers have been less accepting of arts-based methods of health research (Colucci, 2013), although scholars have increasingly embraced the Photovoice (Golden, 2020), which has been used in mental health research since 2008 (Han & Oliffe, 2016). Hence, our finding reflects the wider emergence of arts-based methods within research and the growing acceptance of Photovoice within mental health research, including research involving adolescents.

### ***Attrition within Photovoice studies exploring mental health among adolescents***

In five studies, attrition was an issue affecting participation among adolescents due to barriers such as illness, transport issues, domestic situations, and loss of camera equipment. Attrition is a common issue within mental health research (Homman et al., 2021), with individuals experiencing mental illness more likely to disengage (Folke et al., 2018). This tendency may be compounded in Photovoice studies exploring mental health among adolescents who lead complex and dynamic lives (Mawn et al., 2015) and can disengage from research (Carter et al., 2012). Moreover, some studies in our review included multiple sessions which may not have accommodated the complexities of adolescents' lives and could have influenced attrition. Our findings suggest that adolescents experience barriers to engaging in mental that exist despite the use of an engaging method like Photovoice, which offers flexibility and adaptability.

### ***Number and duration of sessions within Photovoice studies exploring mental health among adolescents***

Researchers did not report the number of sessions within eight of the Photovoice studies examining mental health among adolescents, while four studies reported two or three sessions. Similarly, five studies did not report on the duration of each session, whereas the remaining five studies reported session lengths between 40 and 90 minutes. Adolescent researchers have previously designed Photovoice studies consisting of four and twenty sessions, each lasting between one and a half to two hours (Strack et al., 2004 & Uchima et al., 2021). The variations seen in the number and duration of Photovoice studies included in our review and other Photovoice studies involving adolescents could reflect researchers' flexibility in designing research to accommodate the need of adolescents. However, the lack of information detailing the logistics of the studies in this review underscores the need for improved reporting among Photovoice scholars who examine mental health among adolescents.

### ***Number of groups within Photovoice studies exploring mental health among adolescents***

In one study, researchers interviewed participants individually instead of being grouping them together as in other studies. However, nine studies did not specify how many groups there were within the Photovoice study, whilst two reported four and 12 groups of participants. Unlike interviews, focus groups foster different power dynamics (Smithson, 2000), and participants' responses can be influenced by the size of the focus group (Guest et al., 2017). Therefore, our finding poses a challenge in determining the variation in group dynamics and resultant engagement among adolescents participating in Photovoice studies examining mental health.

### ***The use of a framework to guide the conversation in Photovoice studies exploring mental health among adolescents***

To facilitate discussion of photos, six studies used the SHOWeD framework which asks five questions: What do you **S**ee here? What is really **H**appening? How does this relate to **O**ur lives? **W**hy does this situation exist? What can we **D**o about it? This finding echoes Hergenrather and colleagues (2009),

who found that almost half of the Photovoice studies reviewed used the SHOWeD framework. C. C. Wang (1999), one of the original founders of Photovoice, suggested using this framework to facilitate analysis and action, which can direct conversation and identify determinants of social issues (Liebenberg, 2018). However, our finding illustrates a variation in how Photovoice researchers examining mental health among adolescents adhere to Wang's recommendations. This could infer researchers' autonomy in making methodological decisions over their research and a possible dislike of the SHOWeD framework which is perceived to limit free conversation (Abma & Schrijver, 2020).

## ***Characteristics of adolescents participating in Photovoice studies exploring mental health***

### ***Sample sizes of Photovoice studies examining mental health among adolescents***

Two studies did not specify the number of adolescents participating in their study. Whereas the remaining ten Photovoice studies had sample sizes ranging from four to 58 participants, with ten or fewer adolescents included in six studies. This pattern is similar to that observed in recent Photovoice studies involving adolescents, where the number of participants ranges from four and 36 participants (Fountain et al., 2021). However, this trend deviates from the traditional Photovoice process by C. Wang and Burris (1997) which recommends a maximum sample size of ten participants. This finding could reflect advancements in researchers' ability to conduct Photovoice studies with larger samples or an increased willingness among adolescents over time to participate in Photovoice studies that examine mental health.

However, Photovoice studies exploring mental health among adolescents remain relatively small compared to other research methods like random controlled trials, which can recruit hundreds or thousands of participants (Birell et al., 2021; Schleider et al., 2022). Data saturation, a concept that evidences rigour within qualitative research (Constantinou et al., 2017), can be achieved in qualitative research using smaller sample sizes (Hennink & Kaiser, 2022). Thus, smaller sample sizes may be sufficient in Photovoice research which produce rich and varied data (Catalani & Minkler, 2010) and may be more likely to reach saturation compared to methods relying on narrative data alone. However, the small sample sizes employed by Photovoice studies exploring mental health among adolescents may present difficulties in generalizing the findings to a wider adolescent population.

### ***Gender representation of adolescents involved in Photovoice studies examining mental health***

Although Wainaina et al., (2021) had research aims that could only be answered by female participants, nine studies were significantly over-represented by females (127 females to 47 males, respectively). However, three studies did not specify the gender of participants. Females are more likely to participate in Photovoice studies exploring mental health among adolescents, coinciding with the trend seen across research (Winding et al., 2014), including broader Photovoice research (Catalani & Minkler, 2010). The feminist underpinnings of Photovoice (C. Wang & Burris, 1994) aim to promote communication among females (Capewell et al., 2020), indicating that photovoice may be more compelling to females than males. Additionally, the topic of mental health may attract more females who have a higher prevalence of mental health disorders than males (GBD 2019Mental Disorders Collaborator, 2022).

Furthermore, females are more likely to disclose their emotions than males (Mental Health Foundation, 2021) who experience higher rates of mental health stigma (Jorm & Wright, 2008). The over-representation of female adolescents in Photovoice studies exploring mental health may reinforce existing barriers to male participants and limit the transferability of findings. However, the lack of reporting of participant demographics creates challenges in understanding which adolescents are likely to disengage from Photovoice studies exploring mental health.

### ***Ages of adolescents involved in Photovoice studies examining mental health***

Ten studies provided the age ranges of participants which collectively ranged from ten to 22 years old. However, Two studies did not specify the ages of participants and instead described the

adolescents as middle and high-school students. This finding illustrates how Photovoice can be used in research involving any age group (Fountain et al., 2021) and underscores the adaptability of Photovoice as a research method. However, this finding could also be attributable to the definition of adolescents that we used in our review, as alternative definitions of adolescents could have yielded different results.

### ***Socioeconomic status of adolescents involved in Photovoice studies exploring mental health***

Eleven studies did not report the socioeconomic status of participants, except for Liegghio (2016) who included an equal mix of adolescents from low, middle and high-income households. This reflects a trend in health research where researchers often underreport the socioeconomic status of participants (Alegria et al., 2021). Estimates found that 10–35% of studies involving adolescents lack socioeconomic data, highlighting the potential difficulties of accurately and reliably measuring socioeconomic status among adolescents (Hammond et al., 2021).

Researchers often use proxy measures, such as parental occupation, to ascertain socioeconomic status among adolescents (see Svedberg et al., 2016) which promotes parental perspectives (Goodman et al., 2001). Such proxy measures may lead to adulteration of the data collected and may be irrelevant to researchers using Photovoice to examine mental health from the perspective of adolescents. Furthermore, journal author guidelines place less of an emphasis on the reporting of socioeconomic status compared to other demographic variables such as ethnicity (Buttery et al., 2022), possibly explaining the omission of socioeconomic data in Photovoice studies exploring mental health among adolescents.

### ***Ethnicity of adolescents involved in Photovoice studies examining mental health***

Five studies did not report the ethnicity of adolescents. Whereas seven studies included information about the participants' ethnicity, although there was no standardized approach to reporting this data across the studies. Researchers often fail to report participants' ethnicity (Routen et al., 2022), possibly due to restrictions enforced by countries that prohibit the collection of ethnicity data (Gov UK, 2022). This issue may be compounded in Photovoice studies exploring mental health among adolescents, as there may be an increased need to protect participants' confidentiality when collecting data on a potentially stigmatizing topic.

Furthermore, Photovoice studies exploring mental health among adolescents typically sample less than 100 participants, which may not be representative of broader adolescent populations. As a result, the collection of ethnicity data from adolescents may be omitted when it is unable to provide representative inferences about the wider population. Furthermore, the definition of ethnicity encompasses society's social norms and attitudes (Bhopal, 2013) which are likely to vary across geographies and populations. The complexity of defining ethnicity and the way in which adolescents understand ethnicity could lead to variation among ethnicity data collected in Photovoice studies exploring mental health among adolescents.

## ***Main themes elicited across the findings of Photovoice studies examining mental health among adolescents***

### ***Struggle can give strength and a sense of belonging***

Our findings revealed common themes related to coping and resilience and beliefs about oneself. In Bashore and colleagues' (2017) research, adolescents described relying on coping skills, including playing musical instruments to manage stress. One participant in the study shared a photograph of a drum to illustrate how they released their frustration. Moreover, one respondent in Rose's et al. (2018) study described how coping was a way to "occupy your mind from something that's hurting you for a little while [sic]." (Page 802).

Orth and van Wyk's (2022) study explored resilience in adolescents, with one 17-year-old female describing her persistence using a photograph she had taken of rain: 'I thought, why not embrace . . .

like the storms of my life and accept my situation' (Page 1444). Similarly, in Liegghio's (2016) study, a participant described how a photo of a drawing of a skull was representative of them being 'hardcore' and 'durable', reflecting their resilience.

Dempsey (2016) noted how adolescents' beliefs about themselves, including a perceived lack of belonging and loneliness, negatively influenced depression in adolescents. Furthermore, in Georgievski and colleagues' (2018) study, an adolescent outlined how cancer treatment influenced their perception of themselves: *'I feel that because I went through this, I can go through anything ...'* (Page 710). Moreover, Woodgate et al. (2021) study included a participant reflecting on self-perception whilst examining a photograph of a stop sign: *'I feel like I'm just sort of standing and staying in one place, not really making progress in any field of my life ... so that sort of represents anxiety and depression.'* (Page 9). An adolescent from the project by Northwest Michigan Community Health Innovation Region's Behavioral Health Initiative (2021) explained how believing that *'you're not alone even though you may feel like it'* could reduce mental health stigma (Page 19).

During adolescence, stress can result from developmental, hormonal and social changes adolescents experience (Acharya et al., 2018; Lynne et al., 2020; Seiffge-Krenke et al., 2009). Adolescents' ability to cope with stress is important in ensuring their mental health (Hussong et al., 2021), as ineffective coping is associated with mental illness (Gurvich et al., 2021). Adolescents utilize a variety of coping strategies to manage stress (Skinner & Zimmer-Gembeck, 2007). This review identifies examples including including music, which reduces stress hormones (Khalifa et al., 2003), and distraction, which enables adolescents to avoid stressful situations (Allen & Leary, 2010). Coping with stress is associated with resilience (Bonanno, 2012) which, in turn, influences beliefs about oneself (Cazan & Dumitrescu, 2016). Our review highlights the relationship between these intersecting determinants and adolescent mental health and underscores the potential of employing photovoice in adolescent research to explore complex subjective experiences of mental health.

### **Family and friends provide hope and (mis)understanding**

The study findings revealed common themes relating to family and friends. In Orth and van Wyk's (2022) study, one participant explained that their sibling provided them with a sense of purpose. They illustrated this by sharing a photo of their sister and explained: *'Oh, this is my sister. You know when I look at her, there's a moment that I want to be myself. You know she gave me hope.'* (Page 1438). Moreover, Bowers and Wozniak's (2020) project captured the importance of friends using a photo of teenagers which was captioned: *'Friends are always there to lend a hand or an ear when you need it.'* (no page).

Furthermore, Velez-Grau's (2019) study highlighted differences in how mental health is understood between adolescents and their families. One adolescent explained how their family perceive mental health as a *'one-way road' that does not appreciate the barriers surrounding mental health care* (Page 917). Similarly, in Wainaina's study (2021) a respondent highlighted how her friends *'did not understand her situation'*, but paradoxically provided her with *'hope'*, highlighting how adolescent friendships could be strained through stigmatization or strengthened (Page 9).

During adolescence, relationships with others become psychologically relevant (Batool & Lewis, 2022), and young people often seek support from friends and family (G. F. Moore et al., 2018). The Social Buffering Hypothesis recognizes that social networks negate the experience of stress (Cohen & Wills, 1985) and enable communication (Cobb, 1976). Friends and family have a key role in promoting well-being in adolescents (Schacter & Margolin, 2019), which can improve their capacity to cope with adversity. The adolescents involved in the studies in our review found comfort and support in their relationships. However, our review also highlights disparities in attitudes towards mental health within adolescents' social support networks. Our review demonstrates the dynamic and paradoxical nature of adolescent relationships and points towards the usefulness of Photovoice in exploring these complex networks.

### ***Feeling safe and the challenges of poverty***

The study findings elicited common themes of safety and living in a lower socioeconomic area. In Dempsey's (2016) study, the correlation between living near danger and the risk of depression among adolescents was described. Whereas Woodgate and colleagues' (2021) study saw adolescents discuss the challenges of leaving places they considered safe. Furthermore, one adolescent in Watson and Douglas (2012) reflected on a photo of an 'unsafe' bridge, known as 'Muggers Bridge', and how they phoned their father prior to walking underneath it (Page 291). Whereas one adolescent in Wainaina and colleagues' (2021) study used a photograph of a child facing a precarious building to illustrate the feelings of stress she felt as a mother in an informal settlement owing to a lack of financial resources to care for her child (page 5).

Paradoxically an adolescent involved in the project by Northwest Michigan Community Health Innovation Region's Behavioral Health Initiative (2021) explained how communities can harbour safety by '*encouraging empathy and support of others; and most of all, respect for each person*' (Page 34).

Researchers recognize that perceived feelings of safety determine mental health (Wilson-Genderson & Pruchno, 2013), with lower perceptions of safety being correlated with increased stress (Pearson et al., 2021). Photovoice studies exploring mental health among adolescents often sample participants from urban contexts, where feelings of insecurity can be heightened due to a higher likelihood of exposure to stressors (Gruebner et al., 2017). Thus, it is likely that Photovoice studies examining mental health among adolescents in rural contexts would have yielded different findings. Moreover, our findings may reflect the tendency for researchers to sample adolescents from deprived areas, which are characterized by feelings of insecurity (Visser et al., 2021) and exposure to unsafe living conditions (Putrik et al., 2015). Photovoice aims to amplify the voices of individuals from underserved communities (Fountain et al., 2021) and highlight community strengths and weaknesses (C. Wang & Burriss, 1997). Therefore, it is unsurprising that environmental determinants were identified as prominent themes elicited from Photovoice studies involving populations from disadvantaged contexts. Our finding demonstrates the broader influences that impact adolescent mental health and indicates how Photovoice can be used as a needs assessment (C. Wang & Burriss, 1997).

### ***Treatment and the clinical environment influence perceptions of personhood***

Treatment was revealed as a common theme across the Photovoice study findings exploring adolescent mental health. One adolescent in Orth and van Wyk's (2022) study illustrated the theme of treatment by using a photo of a flower to describe how adhering to HIV medication would make her '*beautiful*' and '*strong*' (Page 1443). Furthermore, in Leighhio's study, a respondent captured a photograph showing a door from where they were monitored within a mental health facility, reflecting the widespread practice of observation within mental health (Harrington et al., 2019). Our findings underscore the way in which adolescents' quality of life and perceptions of medical intervention can be impacted by treatment (Dikec et al., 2022; Emilsson et al., 2017).

Furthermore, one adolescent in Velez-Grau's (2019)'s study described the frustrations associated with treatment adherence and the need to negotiate their engagement in their mental health care: '*I am the patient talk to me about my treatment don't talk to my parents first, especially when they do not know what's up*' (Page 918). Parents are presumed to have the capacity to make decisions (Sinclair, 2009) and often provide consent for their child's medical treatment (British Medical Association, 2020; Kruger, 2018). However, our findings reinforce how adolescents want to be involved in their mental health care (Gros et al., 2017), despite their parents being more likely to be invited to engage in the decision-making process (Quaye et al., 2019).

Our findings highlight how treatment influences adolescent mental health and demonstrates how adolescents navigate and reflect upon their treatment journeys. This may be an expected finding given that some of the adolescents involved in the studies in our review were actively or had historically engaged with healthcare services. This demonstrates the way in which adolescents use

Photovoice to explore the nuanced experiences associated with engaging with mental health treatment.

### ***Differences in Photovoice studies examining mental health among adolescents conducted in HICs and LMICS***

Adolescents involved in Photovoice studies exploring mental health in LMICs were situated within the context of communicable disease and sampled from informal settlements. In addition, philanthropist organizations, such as The Oppenheimer Memorial Trust and Bill & Melinda Gates Foundation funded Photovoice studies that explored mental health in adolescents in LMICS. In comparison, higher education organizations including universities and research institutions, fully or partly funded six studies conducted in HICs. Although two studies conducted in HICs were funded by not-for-profit organizations and charities and three studies did not specify their funding sources. Additionally, Wainaina and colleagues' (2021) study highlighted the need to protect participants with security which was a provision that was not observed in Photovoice studies conducted in HICs.

Our review illustrates disparities in the funding, focus and considerations of Photovoice studies examining mental health among adolescents between HICs and LMICs. These observed differences highlight the unique characteristics of Photovoice studies conducted in varying contexts and are important for researchers conducting Photovoice research work to acknowledge.

### ***Strengths and limitations***

Our review is the first of its kind to investigate the use of Photovoice within mental health research involving adolescents. Our review adds to a paucity of research that is beneficial to researchers, academics and clinicians and could inform future Photovoice studies and funding decisions.

We used a structured, peer-reviewed, robust and inclusive approach to elicit information from multiple studies derived from several sources. Individuals from different countries, disciplines and research units participated in the narrative synthesis which made the testing of the synthesis strong. Additionally, we provide readers with an extensive multi-faceted quality appraisal of the included studies which enables readers to evaluate the credibility of our review's findings.

However, our review has limitations. Firstly, our review is limited by the parameter used to define adolescents, which is likely to vary across sources. Secondly, the use of pre-extracted data may make this review difficult to replicate. Although we have remedied this limitation by including the data extraction table within our own review (see [Table 2](#)). Thirdly, the inclusion of published studies introduces publication bias to our review. Lastly, the low quality of studies included in our review may affect the validity of the review findings.

### ***Implications***

Our review has the potential to influence various stakeholders, including parents, educators, service designers and policymakers, who can make more impactful decisions based on research co-produced by adolescents. Our review emphasizes the implications of adopting Photovoice as a compelling and equitable method in mental health research involving adolescents. Combining photographs and narratives within Photovoice research captures nuanced and emotive experiences, challenging the traditional methods that often collect one form of data. By engaging adolescents in the research process, Photovoice advocates the fair representation of adolescents within mental health research. This approach can promote adolescents' perspectives and reduce the potential biases imposed by adult researchers, producing a more credible interpretation of adolescents' mental health experiences.

**Table 2.** Data extraction table from Burn and colleagues' review.

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
1. Adams et al., (2017) South Africa	28 participants (F-19, M-9) 12–14 years Low-and middle income communities	Aim: To explore children's representation and perceptions of natural spaces using photovoice and community mapping.  Photovoice questions: Take photographs of the places that make you happy and unhappy and your favourite places in nature	Disposable camera (28 exposure) used 1 week to take photographs Discussed photos in a group using the SHOWeD method	None reported
2. Agaronov et al., (2019) USA	32 participants (~21 female) 11–14 years 31- Black/African American Historically marginalized neighbourhood	Aim: To understand urban adolescents' experiences of food culture at home and school.  Photovoice question: What influences food choices in my community? and Identify personal food influencers at home, school and in your neighbourhoods.	Participants participated in two community assessments of the food environment, and two independent assignments Photos discussed in interviews (of 1–3 adolescents) using the SHOWeD method	None reported
3. Aldana et al., (2016; 2021) USA	9 participants (F-5, M-4) 14–17 years 2- African American, 2-Arab American, 4-Asian American, 10 White descent Socioeconomically diverse neighbourhood	Aim: To explore and identify issues related segregation using Photovoice and mapping  Photovoice questions: Take pictures of your classrooms, hallways, schoolyards and neighbourhoods and how you see segregation.	Year-long Photovoice study Participants selected one photo each that they were willing to share with the group Photos discussed in a group using free writing	1. Art exhibit 2. Policy advocacy events: included presenting at the Michigan Children's Conference in Lansing, where the youth voiced their concerns to elected representatives at the state capitol, and a presentation to state senators, congressional representatives, and staff members of the Congressional Black Caucus.
4. Allen (2010) USA	5 participants (M-5) 14–18* years 5- Black Middle class	Aim: To explore racial microaggressions experienced by black middle-class males at school and how social and cultural capital deflects negative outcomes of school racism  Photovoice questions: If I were to hang out with you over the next few weeks, what would we see, who would we see, where would we go and what would we do?	Digital cameras used Photos discussed in interviews	None reported

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
5. Alley (2018) USA	10 participants (F-3, M-7) 12–14 years 7- White, 1- Hispanic, 1 - Middle Eastern, 1 - African American	Aim: to explore middle school students' perception of what supports and hinders academic success. Photovoice questions: What do you think supports students' academic success and what do you think hinders/conflicts with students' academic success?	Digital cameras used Participants selected 3 photos for each question that they felt were the most representative (total of 6 photos) Photos discussed in interviews	None reported
6. Andrade et al., (2016) Cubilla-Batista et al., (2017) USA	12 participants (F-8, M-4) 12–16 years All Latinos who had immigrated to US	Aim: to explore the community needs and strengths from the youth perspective Photovoice questions: What is it like being a youth living in your community? What do you like/dislike about your community? What are things that help you/prevent you from being healthy?	Digital camera used Photovoice conducted over 6 weekly sessions (each session ~2 hours) 1 week to take photograph Participants selected 5 photos for discussion. Photos discussed in a group using the SHOWeD method	Three photo exhibits and one online exhibition
7. Anglin (2015) Costa Rica	21 participants (F-16, M-5) 10–16 years	Aim: to explore youth perceptions of tourism and the influence of tourism on identity formation Photovoice questions: Take photos of the impacts (positive, negative and neutral) of tourism in the community	Disposable camera used Photovoice project was conducted over 32 days 11 days to take photographs 6 photos were selected for discussion Photos discussed in a group	Students made posters using their photographs which were displayed in the school
8. Ascroft (2020) Barbados	11 participants (F-5, M-6) 14–17 years Low- middle socioeconomic background	Aim: to explore gender violence as experienced by Bajan adolescents Photovoice questions: What it means to be a teenager in Barbados? Spaces where I feel to be myself How I understand gender What peace means to me	Five sessions over a six-week period 1 week to take photographs Each week participants submitted one photo each and a supporting narrative (4 over the course of the project) Photos discussed in a group	None reported
9. Bader et al., (2007) Israel	20 participants (F-10, M-10) 14–15* Bedouin communities	Aim: to identify personal and community health issues and promote youth led-community action Photovoice questions: Identify personal and community health issues	Photos discussed in a group	A video and exhibit on 'violence prevention' for school peers Presentation on 'suicide prevention' to teachers, parents and community members

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
10. Baker & Brookins (2014) El Salvador	11 participants (F-4, M-7) 11–14 and 17–19 years Low socioeconomic status	Aim: to explore socio-political conscious in El Salvadorian youth  Photovoice questions: (younger group) take photos on pollution, general problems in the community, and give a message to adults about your lives  (older group) take photos on tourism and poverty and the issues that reflect the lives of adolescents in the community	Digital cameras used Three monthly sessions Participants each selected 3 of their own images to go into the group pool of photographs. The group then examined these photos and collectively selected the  3 that best represented the topics for further discussion. Photos discussed in a group using the SHOWeD method	None reported
11. Balvanz et al., (2016) USA	7 participants (F-7) 15–17 years* All African American Small low-income rural community	Aim: To assess determinants of childhood obesity in the community  Photovoice questions: Healthy and unhealthy things in my life Healthy and unhealthy places Healthy and unhealthy prices Things I love in my community	Six weekly photovoice sessions One week to take photographs Participants selected 1–2 photos that they believed best represented the topic. Photos discussed in a group using the SHOWeD method	Presentation at a community forum and in academia
12. Banyard et al., (2020) USA	9 participants (F-6, M-2, other –1) 13–15* 6- Native American, 3- White)	Aim: To explore how to prevent sexual and relationship violence within a community  Photovoice questions: Take photos that represent peer pressure, social support, what healthy and unhealthy relationships look like (including friendships), how to be a positive bystander	Digital camera used 7 sessions (6 over 5 weeks, final session 3.5 months later) At each session participants shared at least one photo they took related to the assignment One week to take photographs Photos discussed in a group using the SHOWeD method	6 Community exhibitions and a travelling exhibition

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
13. Bashore et al. (2017) USA	10 participants 11–13 years* All Hispanic Large urban setting	Aim: to explore the school environmental factors that influence mental and emotional health among adolescents in an urban middle school.  Photovoice questions: What comes to mind when you think of health? (incl. stress and appropriate coping skills, health communication with parents/adults, anger and aggression, bullying)	7 session over 7 weeks For each photovoice session participants shared one photo and one journal entry Participants discussed their photos using the SHOWeD method	None reported
14. Bayer & Alburqueque (2014) Peru	13 participants (F-7, M-6) 12–16 years Low-income area	Aim: To understand adolescents' views on the factors affecting their health, well-being and sexuality	Disposable cameras were mainly used, with the option to use a few limited digital cameras 12 sessions over 3.5 months (each session 1.5–2 hours, except the final 2 which were 4–5 hours each) Photos discussed in a group using the SHOWeD method	Presentation and exhibit (that was open for one month)
15. Behrendt & Machtmes (2016) USA	6 participants (F-3, M-3) 14–18 years*	Aim: To explore how high-school students learn on a field trip.  Photovoice questions: photograph what you believe is important, interesting or significant to you over the field trip.	Digital cameras used Photovoice project conducted over 4 days All photos were discussed in the interviews, but participants selected 5 photos to write about. Participants wrote statements to selected photos, and photos were discussed in individual interviews	None reported

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
16. Benavides-Vaello et al., (2014) USA	45 participants (F-40, M-5) 14–18 years* 20 - Native American, 19- Hispanic, 1- African American, 1- Pacific Islander, 4- White non- Hispanic All participants from disadvantaged backgrounds	Aim: to explore predicted barriers and facilitators encountered by high school students when attending college and pursuing careers in nursing or the health sciences Photovoice questions: What are the perceptions of barriers or available support for going to college to become a nurse or other health professional?	Photovoice project conducted over 2 weeks Five days to take photographs Participants selected 5 photos for discussion that were the most representative Photos were discussed in a group using the SHOWeD method	Poster of results Presentation
17. Berinstein & Magalhaes (2009) Tanzania	16 participants (F-4, M-12) 10–13 years	Aim: to gain an understanding of the essence of play experience in children from Zanzibar, Tanzania Photovoice questions: Take photos of play throughout the week	Disposable cameras were used Four weekly sessions One week to take photographs Photos were discussed in a group	None reported
18. Bevilaqua Brum et al., (2019) Brazil	10 participants (F-4, M-6) 13–16 years Low income	Aim: To explore factors that make adolescents vulnerable to sexually transmitted infections Photovoice questions: what prevents STIs/ HIV/AIDS	Digital cameras were used Photovoice project completed over 2 months One week to take photographs 3 photos selected for discussion Photos were discussed in individual interviews using a modified version of SHOWeD	None reported
19. Bilinski et al, (2013) Canada	21 participants 11–12 years* Majority Caucasian	Aim: To determine the association between health behaviours and psychosocial health and to explore the rural environment from the perspectives of participants and how it contributes to physical and psychosocial health Photovoice questions: Take pictures that represent what health means to you	Disposable cameras were used Participants were given less than a week to take photographs Photos were discussed as a group using the SHOWeD method	None reported
20. Bireda & Pillay (2018) South Africa	10 participants (F-6, M-4) 12–14 years All orphaned by HIV/ AIDS	Aim: to explore some of the protective assets and resources that promote resilience among HIV orphans	Photos discussed in individual interviews	None reported

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
21. Boonekamp et al., (2020a, b) Netherlands	48 participants 12–14 years	Aim: explore students perspectives towards physical activity Photovoice questions: Something or someone that helps you to be active in school, during breaks or immediately after school; A moment that makes you happy or gives you energy An activity you enjoy doing with others during school breaks or after school	Participants used their own mobile phones to take photos In one school participants were given 45 minutes to take photos, in the other they were given ~1 week Photos were discussed in a group using a modified version of SHOWeD	None reported
22. Bosco et al., (2017) USA	19 participants 16–17 years Predominantly Latino Low-income community	Aim: to uncover young peoples' personal and emotional engagements with what, how and where they eat. Photovoice questions: Take photos of the food that you eat and encounter during a 24-hour period, including food seen in advertising, media, and stores.	GPS-enabled cameras were used Participants were given 24-hours to take photos all photos were discussed in individual interviews	None reported
23. Bradford et al., (2017) Canada	19 participants (F-8, M-11) 16–18 years First Nations	Aim: to explore youth perspectives of water and health in their community Photovoice questions: Take photos of things that remind you of water and health on the reserve	Disposable cameras (24-image point and shoot) were used Participants were given 3-days to take photos Photos were discussed in group sharing circles	Posters circulated at home, school, a health centre and a council office
24. Brandão Neto et al., (2015) Brazil	11 participants (F-6, M-5) 15–19 years	Aim: to explore violence and health from the perspective of adolescents Photovoice questions: which situations of violence can you identify in your community?	Digital cameras were used Photos were discussed in a group	None reported

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
25. Brazg et al., (2011) USA	9 participants (F-6, M-3) 15–18 years* Upper-middle income community	Aim: Explore what contributes to adolescents' decisions to use or not use alcohol and other drugs  Photovoice questions: In your community, what influences local adolescents' decisions to use or not use alcohol and other drugs (participants were asked to frame their photos around the 4 domains of risk and protective factors: individual/peer, family, school, community/ environment	Participants were all given disposable cameras, however almost all had personal access to a digital camera, preferring to use this instead.  Participants were given 2-weeks to take photos  Photovoice study completed over 10-weeks (six 2-hour sessions)  Participants shared an average of 4 photos at each session  Photos were discussed in a group using SHOWeD	Community wide travelling photo exhibition  Presentation to the local parent-teacher association
26. Brickle & Evans-Agnew (2017) Evans-Agnew & Eberhardt (2019) USA	10 participants (F-3, M-7) 13–17 years	Aim: describe youth discourses on environmental justice concerning wood smoke air pollution  Photovoice questions: what your environment is like why your neighbourhood might be more polluted than others	Digital cameras were used  Three Photovoice sessions and one community event  Photos were discussed in a group using the SHOWeD method	Community forum held at local library
27. Browne et al., (2020) Ireland	14 participants (F-8, M-6) 15–17 years	Aim: to understand the socio-ecological factors influencing food choice for adolescents in this setting  Photovoice questions: Take photos relate to food availability, food pricing, food service and dining infrastructures, food marketing, nutrition messaging, and relevant student behaviours in both the school and local food settings	Disposable cameras were used  Participants were given 1-day to take photos	None reported

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
28. Burris et al., (2020) USA	13 participants 11–15 years* Majority Black or Hispanic Low-income	Aim: to better understand the experiences and coping strategies involved with teen food insecurity Photovoice questions: Take photos of what teen food insecurity looks like in their community and their ideas for solutions	Disposable cameras were used Photos were discussed in a group using the SHOWeD method	Community exhibit at the juvenile welfare board Presentation of study findings
29. Cahill & Suarez-Balcazar (2012) USA	17 participants (F-13, M-4) 10–11 years 9-Caucasian, 8 -Latino Middle-class neighbourhood 41% of the students in the school district qualified for a free or reduced lunch	Aim: to identify factors that influence children's health Photovoice questions: What activities, places, and things do you believe support healthy lifestyles? What activities, places, and things do you believe do not support healthy lifestyles?	Disposable cameras were used Participants were given one week to take photos Photos were discussed in a group using the SHOWeD method	None reported
30. Call-Cummings & Martinez (2016) USA	25 participants 14–18 years* Latino/a	Aim: to explore Latino/a adolescents' experiences with racism Photovoice questions: take pictures that represent you lives and experiences with racism	Photovoice project completed over 2 months	Photo exhibition in the school library for 2-weeks
31. Call-Cummings et al., (2019, 2020) USA	27 participants 12–14 years	Aim: to explore community issues Photovoice questions: take pictures representing challenges in school, the community, or world	iPads were used to take photos Photovoice project completed over 10 weeks	Photography exhibit
32. Campbell et al., (2013) Ethiopia	29 participants (F-13, M-16) 12–16 years Low and middle-income	Aim: to explore students' relationship with the environment, and their view on expressing agency in improving or adapting it. Photovoice questions: What are the strengths of your environment? What are the challenges facing your environment? How do you engage and interact with the environment?	Participants had one week to take photos Participants provided written descriptions for their photos	None reported

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
33. Cardarelli et al., (2019) USA	17 participants (F-12, M-5) 12–18 years All White High poverty area	Aim: to explore what adolescents perceive as contributing to respiratory burdens in their environments Photovoice questions: What factors inside and outside your home do you believe cause or trigger lung disease?	Digital cameras were used The project was conducted over 8 weeks (3 × 2-hour sessions) Photos were discussed in a group using a modified version of the SHOWeD method. 1–2 of their favourite photos were selected for discussion	Community exhibit at an art gallery The exhibit continues to be shared at community events Presented at an academic conference
34. Caswell & Hanning (2018) Canada	25 participants (F-2, M-23) 11–15 years	Aim: to explore physical and social environmental influences associated with playing ice hockey on adolescent hockey players' food behaviours	Participants used their own smartphone cameras to take photos The project was conducted over 2-weeks. Participants had 2-week to take photos Photos were discussed in individual interviews and groups using the SHOWeD method/3–5 photos were selected for discussion.	Exhibition at two regional arenas.
35. Charmaraman & McKamey (2011) USA	23 participants (F-13, M-10) 11–13 years 61% Black, 26% Latino/a, 9% Multiracial, 4% White)	Aims: to explore the contexts and situations in which early urban adolescents informally gather/ explore information on relationships and sexuality? and how early urban adolescents narrate stories of sexuality and relationships Photovoice questions: take images of important relationships and what draws (or attracts) people together and draws them apart.	Disposable cameras were used (with 27 exposures) The duration of the Photovoice project was 4–5 weeks (1 hour sessions) Participants were given ~4 days to take photos. Photos were discussed in a group.	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
36. Chase (2017) Belize	16 participants 10–12 years**	Aims: to assess community strengths and concerns and to empower youth. Photovoice questions: take photos of what you perceive to be community strengths take photos of what you perceive to be community weaknesses	Digital cameras used (Kodak easysshare) Project conducted over 5 days Photos were discussed in informal interviews and groups of two students using the SHOWeD method	Formal presentation led by the youth
37. Chonody et al., (2013) USA	10 participants (F-6, M-4) 15–17 years 9- African American, 1- Multiracial Participants came from low income neighbourhoods and all had at least one documented barrier (homelessness, runaway, foster care, pregnant or parenting teen, youth offender, basic skills deficit, and/or needed additional assistance with education or employment	Aims: to explore violence from a youth perspective Photovoice questions: For the first photo shoot on the topic of violence, participants were asked to think about the roots of violence in particular, poverty or disagreements, money, human rights and law and love	Digital cameras used Project conducted over 6 weeks After each photo shoot participants were asked to select two of their favourite images to write about. Photos were discussed in a group using a modified version of SHOWeD.	Photo exhibit
38. Cole & Altenburger (2019) USA	29 participants (F-21, M-8) 11–13 years*	Aims: to understand how school facility design, school culture, curriculum, and teachers as role models provide multiple channels for Environmental Education, with a particular interest in the physical built environment Photovoice questions: Where do you learn about environmental sustainability around your school campus?	Students selected their top 12 photos that best answered the question and arranged photos on boards, writing short descriptions for each Photos were discussed in semi-structured interviews	None reported
39. Collier & Devlin (2019) USA	8 participants (M-8) 13–18 years	Aims: to explore the experiences of adolescents at a camp for students with autism spectrum disorders	Disposable cameras (27 exposures) were used The project was conducted over ~6 days Participants had 2 days to take photos Photos were discussed in individual interviews and a group discussion	None reported

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**Table 2.** (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
40. Collins et al., (2015) USA	8 participants (F-8) 15–19 years All African American	Aims: to explore the perception of sexual health among adolescent African American girls and to explore what impacts their decision pertaining to their sexual health  Photovoice questions: What influences sexual behaviour?	Digital cameras were used  Participants had one week to take photographs Photos were discussed in individual interviews using the SHOWeD method.	None reported
41. Dakin et al., (2015) Kenya	20 participants (F-8, M-12) 12–19 years All participants living in informal settlements	Aims: to explore the life within an informal settlement in Kenya from the perspective of its youth with the goal of examining their perception of community strengths  Photovoice questions: Things you like about Mathare Things that show off the slum Things that show the lifestyle of Mathare	The photovoice project met twice weekly for 7 weeks  Each participant selected 15–20 pictures that he or she wanted to discuss from her selection of photos taken that week Photos were discussed in a group using the SHOWeD method	A community exhibit A book about the project was published Photos from the project featured at the 23rd session of the UN-HABITAT'S Governing Council in Kenya.
42. Danker et al., (2019) Australia	16 participants (F-1, M-15) 13–17 years old	Aims: to explore the conceptualization, barriers, and ways to enhance the well-being of students with ASD from their perspectives.  (a) What constitutes well-being for students with ASD? (b) What do students with ASD identify as barriers to their well-being? (c) What do students with ASD identify as internal and external assets of well-being?  Photovoice questions: (a) what is a good life in school (b) what assists you in having a good life in school (c) what stops you from experiencing a good life in school	Participants used their own cameras (smartphones etc) The photovoice project consisted of 2 sessions Participants had one week to take photos Participants discussed all their photos in individual interviews	A report to the school
43. Davison et al., (2011) Canada	8 participants (F-3, M-5) 15–18 years*	Aims: to explore the school environment	Participants had 2 weeks to take photographs Participants discussed their photos in a group	Photo exhibit held at the school

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
44. de los Rios (2017) USA	3 participants 16–18 years* Chicanx/Latinx Working class backgrounds	Aims: to understand youths' perspectives about an ethnic studies curriculum Photovoice questions: take photographs that reflect your understandings of ethnic studies, yourselves, and your communities	Participants used their own smartphones The photovoice project lasted 4 months Participants had 1 month to take photos Participants discussed their photos in small groups and individual interviews	None reported
45. Delabara & Partelli (2019) Brazil	10 participants (F-5, M-5) 12–13 years	Aims: to explore which social determinants influence youths' health and the community where they live Photovoice questions: what factors influence your health and the health of the community where you live?	Digital cameras were used The project was conducted over 2 months, involving 7 weekly meetings Participants had 4 hours to take photos Photos were discussed in individual interviews and groups	None reported
46. Dempsey et al., (2016) USA	7 participants (F-5, M-2) 11–17 years All white	Aims: to identify perceived risk and protective factors for depression. Photovoice questions: take pictures of things that represent risk factors for adolescent depression. Take pictures of things that represent protective factors for adolescent depression.	Digital cameras were used The project was conducted over 7 months Participants had one week to take photos Participants selected 5–10 photos that held the most significance for them Photos were discussed in individual interviews using the SHOWeD method	Photo exhibit at a local arts centre, open for one-month before being transported to two public libraries, for one month each.
47. Derler (2020) Austria	117 participants 15–19 years	Aims: to enhance competencies related to food and sustainability among secondary school students in Austria. Photovoice questions: take photos that depict positive and negative food consumption situations encountered daily	Photos discussed in groups	None reported

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**Table 2.** (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
48. Downey et al (2009a, b) Downey & Anyaegbunam (2010) USA	18 participants 15–19 years Recruited from areas of economic disadvantage	Aims: to explore community life that affect the health and well-being of local residents  Photovoice questions: How would you define your community? What are things in your community that you like? What would make your community a healthier place?	Analogue cameras were used, and participants were provided with 5 rolls of film.  Participants had 2 weeks to a month to take photos Photos were discussed in a group	Booklet that was used at a series of community health forums
49. du Plessiss & Ahmed (2020) South Africa	9 participants (F-5, M-4) 17–19 years Recruited from an area of high poverty	Aims: To explore the career aspirations of youth in a rural secondary school  Photovoice questions: participants were told to take 6–8 photos responding to the prompt 'I want to become a . . . . . because . . . . .'	Tablets were used to take photographs Participants had 90 minutes to take photos Participants presented their photos to the group	Several PowerPoint presentations
50. Duits (2010) Netherlands	32 participants (F-32) 11–12 years Recruited from a school in a disadvantaged neighbourhood 1 - Dutch, 1 - Portuguese participant, 30 - Turkish or Moroccan	Aims: to explore how girls used media in the classroom, and how important media is to their everyday life.  Photovoice questions: What is important to you?	Disposable cameras were used	None reported.
51. Enright & O'Sullivan (2010, 2012) Ireland	41 participants (F-41) 15–18 years Recruited from a disadvantaged school	Aims: to understand engagement towards, and barriers to engaging in physical education  Photovoice questions: where I spend my leisure time; my physically active life; physical activity facilities nearby; physical activity in the lives of my family and friends; and the things that are important to me	Disposable cameras were used Photos were discussed in individual and group discussions	None reported
52. Eriksson & Dahlblom (2020) Sweden	41 participants (F-25, M-16) 11–12 years	Aims: The aim of this study was to explore children's perspectives on health promoting living environments  Photovoice question: take photos of places where you feel comfortable, happy and safe.	Digital cameras were used Photovoice study conducted in three sessions Participants had one week to take photos Participants selected three photos to present and discuss in a group	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
53. Esau et al., (2017) Uganda	30 participants (F-9, M-21) 13–17 years	Aims: to understand the current health priorities of youth living in rural Uganda. Photovoice questions: What makes you feel healthy? What makes you feel unhealthy? What do you see as the health goals for your community?	Disposable cameras were used (with 27 exposures) Photovoice study conducted over 2 sessions Participants had one week to take photos Participants discussed all the photos they had taken in semi-structured interviews	None reported
54. Evans-Agnew (2016, 2018) USA	20 participants (F-11, M-9) 15–18 years All African American	Aims: to explore asthma management disparities in African American adolescents Photovoice questions: How can I show through photographs what my life with asthma is like? What may make it harder for me to manage asthma compared to others?	Digital cameras were used Photovoice study conducted over 3 sessions in a month. Participants had about one week to take photos Photos were discussed in a group using the SHOWeD method	Phototexts presented to the Washington State asthma planning committee
55. Faircloth et al., (2016) New Zealand	6 participants (F-3, M-3) 16–19 years Maori	Aims: To explore the identities of deaf Maori youth Photovoice questions: Who am I? What are my aspirations, goals and dreams? What is important to me in terms of communication? Who is in my community? Who do I connect with? What do I want people to know about me and my identity?	Digital cameras were used Photos were discussed in a group.	Travelling photo exhibit
56. Farello et al., (2019) USA	9 participants (F-9) 14.8 years (SD = 0.83) Burmese	Aims: to understand the role physical activity plays in the resettlement of female youth from refugee backgrounds Photovoice questions: take up to 10 photos of people, places, and things representing challenges you have faced with PA, sport, and/or exercise Take up to 10 photos of people, places, and things that represent highlights you have experienced with PA, sport, and/or exercise since moving to the Midwest.	Digital cameras were used Photos were discussed in individual interviews using the SHOWeD method	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
57. Fernandez-Rio & Menendez-Santurio (2017) Spain	14–15 years*	Aims: to assess students and teachers' perceptions concerning their participation in an educational kickboxing learning unit	Participants selected 7–10 photos each for a group discussion.	None reported
58. Findholt et al., (2010, 2011) USA	6 participants (F-4, M-2) 15–18 years All Caucasian Household income less than average	Aims: to explore the perceptions of rural youth concerning the environmental barriers and facilitators of children's physical activity and healthy eating in their communities Photovoice questions: take pictures of facilitators and barriers to children's physical activity and healthy eating within their communities	Disposable cameras were used Photovoice project conducted over 3 photovoice sessions, plus 1 final 1 hr presentation. Photos were discussed in groups using the SHOWeD method.	Presentation of findings to stakeholders
59. Foster-Fishman et al., (2010) USA	19 participants (F-13, M-6) 12–13 years 9-African American, 6-Caucasian, 2-American Indian, 1-Hispanic, 1- other)	Aims: to learn from youth about how young people can become involved in their neighbourhoods, schools, and community and how the community can support their future goals Photovoice questions: What are your dreams for the future? What are your educational and career goals? How are you and your friends involved? What could you and your friends do to help make your neighbourhood, school, and city a better place to live? What are some of the ways that local organizations and adults can help you make this happen?	Participants had one week to take photos Three photos were selected per participant for a group discussion.	A report An exhibit which opened with a brief presentation by the youth. A guide book There were plans in place for a travelling Photovoice exhibit at the time of publication

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
60. Fournier et al., (2014a, b) Uganda	13 participants (F-5, M-8) 12–18 years	Aims: to explore the experiences of orphaned and living with HIV in Uganda Photovoice questions: what matters to me?	Disposable cameras were used. The photovoice study was conducted over 8 meetings over the space of one month. The participants took photographs during two afternoon sessions. Photos were discussed in a group using the SHOWeD method	Exhibition at the group home where the photovoice project took place
61. Gallagher et al., (2015) Ireland	9 participants (F-4, M-5) 11–14 years Participants all from disadvantaged backgrounds	Aims: to explore the occupational choices of at risk young people. Photovoice questions: take pictures of things you do often, things you like/don't like doing and what you'd like to do in the future.	Participants had one week to take photos Photos were discussed in either individual group interviews or in groups of 2.	None reported
62. Galvaan (2015) South Africa	7 participants (F-3, M-4) 11–14 years Participants all from disadvantaged backgrounds	Aims: to explore occupational choices in marginalized young people	Photovoice project conducted over 8 months Photos were discussed in individual and group interviews.	None reported
63. Garba et al., (2020) Nigeria	20 participants (F-10, M-10) 10–17 years*	Aims: to explore the peer effect of mathematics anxiety amongst high-school students Photovoice questions: capture your peers' actions and expressions during class time which you feel either intensified or minimized their mathematics anxiety.	Photos were taken in 4 classroom sessions. After each session a 1:1 interview was conducted where participants selected on photo to discuss	None reported
64. Georgievski et al. (2018) Canada	6 participants (F-4, M-2) 13–17 years	Aims: to explore the psychosocial needs of adolescents on active cancer treatment Photovoice questions: take photos of your strengths, struggles, true friends, fears and hopes	Photos were taken using digital cameras The photovoice project was conducted over 7 weeks, involving weekly sessions, 90 minutes in length. Participants presented 3–4 photos each week for group discussion	Gallery exhibition

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
65. Goessling & Doyle (2009) USA	9 participants (F-8, M-1) 14–17 years 2- Caucasian, 1- Hmong, 1- Fijian, 1- Latino, 4- African American Study conducted in a neighbourhood below the poverty line.	Aims: to understand the lives, experiences and communities of the students Photovoice questions: take pictures of your community in order to teach others about it describe your community, and take pictures of things you like and things you don't like.	Participants were provided with analogue cameras (Holga), and 5 rolls of film The photovoice study was conducted in 2 months For each roll of film participants picked 1–3 of their favourite pictures for a group discussion using the SHOWeD method.	Two photo exhibitions Calendar sale featuring photos from the project Website
66. Green & Kloos (2009) Uganda	12 participants (F-6, M-6) 12–16 years	Aims: to facilitate youth participation in a context of forced migration Photovoice questions: Tell a story about what it is like to be a student at your school Tell a story about what it is like to be a member of your [camp] community. Tell a story about what it is like to be a member of your household. What is your village like? A new school term is starting. Tell a story about what it is like to go back to school.	Digital cameras were used The photovoice study was conducted in 6 weeks Participants had 2 day photo outings each week per assignment Photos were discussed in a group	A website was created to display the students' work and raise awareness about their stories. Photo exhibits were held in four small cafes in two states in the U.S.A..
67. Greene et al., (2013) USA	3 participants (F-3) 14–16 years 2- Black, 1- White all low-income	Aims: to explore participants' perceptions of their neighbourhoods Photovoice questions: take photographs in your neighbourhood to capture both those things and spaces you deem good and those that need improvement.	Disposable cameras were used The photovoice project was conducted over 6 months (meeting approx. once a month). Photos were discussed in semi-structured interviews and group discussions	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
68. Groenewald et al., (2018) South Africa	33 participants (F-18, M-15) 15–18 years All black isiZulu-speaking	Aims: to explore adolescents' representations of substance misuse and risky sexual practices in a low-resource, high-HIV - prevalence community Photovoice questions: take photos that describe Who you are, what makes you happy; the activities you do for fun, the risks and challenges that are present for young people in the community, your hopes and goals, and your culture.	Disposable cameras were used Photos were discussed in groups.	None reported
69. Gubrium & Torres (2013) USA	20 participants (F-10, M-10) 14–18 years* All Latino/a	Aims: to explore the perspectives on Latino/a youth on communicating and learning about sexuality in school and family settings Photovoice questions: (Girls) take photos showing desire and pleasure and communication about sexuality (Boys) take photos of family issues and taboos and communication about protection	Disposable cameras were used The photovoice project was conducted in 3 sessions Participants had one week to take photos Participants selected two photos each to discuss at each session. Photos were discussed in a group using the SHOWeD method	None reported
70. Gupta et al., (2013a, b) USA	15 participants (F-11, M-4) 13–18 years 12- African American, 3- Hispanic	Aims: to explore perceived factors addicting asthma among adolescents Photovoice questions: What is your community? What things in your community affect your health? What things in your community hurt or help your asthma? What are the most significant barriers to your asthma management? How can you improve or control your asthma?	Digital cameras were used The photovoice project was conducted over 10 weeks, involving twice weekly sessions lasting 2hrs each. Photos were discussed in a group.	2 student led PSA videos

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
71. Ha & Whittaker (2016) Vietnam	9 participants (F-2, M-7) 10–17 years	Aims: to explore the experiences of children living with autism spectrum disorder.  Photovoice questions: it wasn't possible to give participants a specific question, so they took photos freely.	Digital cameras were used  Participants had a fortnight to take photos	Exhibition
72. Hackett et al., (2015) USA	9 participants (F-5, M-4) 15–17 years 8- African American, 1- Latina Participants from low income neighbourhood	Aims: to examine childhood obesity in a segregated, low income neighbourhood	Participants used flip video cameras or their own cell phones The photovoice project was conducted over 10 weeks (involving weekly sessions lasting 1-2hrs) Photos were discussed in a group.	Exhibition Report of project and findings Slide-show presentation
73. Haglund et al., (2016) USA	7 participants (F-7) 14–18 years all Latina	Aims: To explore adolescent Latinas' perspectives on relationships  Photovoice questions: take photos that captured elements of healthy relationships.	Digital cameras were used. The photovoice project was conducted over 8 weeks (once a week) Participants discussed photos in a group using the SHOWeD method.	Exhibition
74. Haines et al., (2009) Canada	25 participants (F-25) 16–19 years	Aims: to explore young women's accounts of smoking.  Photovoice questions: take pictures about how smoking fits within your life.	Digital cameras were used. Photos were discussed in a group.	None reported
75. Harkness & Stallworth (2013) USA	4 participants (F-4) 16–17 years 2 – African American, 2 – White	Aims: To understand high school females' conceptions of mathematics and learning mathematics  Photovoice questions: What is mathematics? What is your ideal learning environment? What things impede learning of mathematics?	Disposable cameras were used, with 27 exposures Photos were discussed in individual interviews	None reported
76. Harley (2015a, b) Harley & Hunn (2015) USA	16 participants (F-9, M-7) 13–17 years All African American	Aims: to explore the perceptions of hope and spirituality among low-income African American adolescents  Photovoice questions: take photos of images that represent hope.	Disposable cameras were used Participants had one week to take photos Photos were discussed in individual interviews using the SHOWeD method.	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
77. Haugen et al., (2019) USA	7 participants (F-4, M-3) 11–14 years* All Hispanic/Latino All experiencing high poverty	Aims: to explore Latino/a adolescents' experiences at school and in the community	Participants had the option to use a tablet provided or their own smartphones to take photos. The photovoice project was conducted over 5 weeks, involving 4 sessions ~45 mins each Participants had one and a half weeks to take photos Photos were discussed in groups	Photo exhibit at the school
78. Hayball & Pawlowski (2018) UK	25 participants (F-13, M-12) 10–11 years	Aims: To understand children's perceptions of their physical activity behaviour outdoors Photovoice project: take photos depicting locations and/or features in your neighbourhood that influence your time spent outside.	Disposable cameras were used Project conducted over 3 months Photos were discussed in individual interviews or focus groups	None reported.
79. Hayik (2020) Israel	62 participants 15–18 years* All Arab Palestinians	Aims: To explore Arab students' perceptions of the environment Photovoice questions: take photos representing environmental nuisances in the areas	Participants wrote descriptions for their photos	Exhibition Presentation at a conference
80. Helm et al., (2015) USA	10 participants (F-6, M-4) 12–18 years All Haumana	Aims: to develop a drug prevention programme with indigenous Hawaiian adolescents. Photovoice questions: What are the Hawaiian values, beliefs, ways of knowing that we know and use, and that would be important to include in a model of Native Hawaiian drug prevention	Used high-quality digital cameras Photovoice study conducted over 6 months Photos were discussed in a group using the SHOWeD method. Each participant selected their chosen photos to share with group, and then 1–2 photos from the group were selected to explore in greater detail	Community celebration where the photos were shared
81. Helman et al., (2019) South Africa	31 participants (F-18, M 13) 15–18 years 14 - Coloured, 17 - Black Participants from low-resourced communities with high rates of crime and violence.	Aims: to explore how young people conceptualize fatherhood Photovoice questions: take photos representing fathering in my community.	Participants had 2 weeks to take photos Participants selected 5 photos each to discuss in interviews and group discussions	An exhibit was held in one of the two communities, it wasn't possible in the second community due to escalating violence.

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**Table 2.** (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
82. Henry et al., (2013) Trinidad and Tobago	9 participants 17–18 years*	Aims: to explore personal health priorities and factors that influence their daily lives  Photovoice questions: take pictures inside and outside around your school community.	Disposable cameras were used. Participants had 4 days to take photographs Participants selected their top 10 photos for discussion in a focus group, and 5 photos for free-writes	Multi-stakeholder public forum Presentation of findings at a Symposium
83. Hess et al., (2020) USA	8 participants (F-5, M-3) 15–17 years 4- Burmese, 4- Bhutanese	Aims: to explore experiences and perceptions, through photovoice, of Burmese and Bhutanese adolescents who served as health care brokers in resettled refugee families  Photovoice questions: take photos of objects, situations, or encounters related to language brokering in health care settings	Disposable cameras were used Participants had two weeks to take photos Participants each selected 5 photos for discussion in a group	Photo exhibition for 2 months Panel discussion at a community meeting
84. Ho et al., (2011) Hong Kong	54 participants (F-34, M-20) 12–17 years Area of high poverty	Aims: to explore how the neighbourhood/ community contexts shape adolescents' perceptions and development  Photovoice questions: places you like most places you dislike most	Disposable cameras were used (24 exposures) Participants had 2 weeks to take photos Photos were discussed in a group	None reported
85. Hoy et al., (2018) UK	5 participants (F-1, M-4) 12–16 years	Aims: to explore the experience of transitioning from primary to secondary school for autistics pupils  Photovoice questions: Take photos showing what you like or dislike around the school, including objects that helped and did not help you to settle in during the transition to secondary school	The photovoice project lasted 1–2 days and involved 2 sessions Participants had ~15 minutes to take photos Photos were discussed in semi-structured interviews	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
86. Hsiao et al., (2019) Taiwan	13 participants (M-13) 13–19 years 6 participants from indigenous backgrounds All participants grew up in poverty	Aims: to explore the experiences, and needs, of at-risk Taiwanese boys Photovoice questions: Take photos of Self-perceived needs, future goals, sources of support, things you wish others knew about you, and ways society can better support you	The photovoice project lasted a year Photo narratives were written for photos, and the photos were discussed in individual and group meetings	13 presentations Three exhibitions
87. Indelicato et al., (2019) USA	17 participants 14–18 years 11- White, 4- Multiracial, 2- Hispanic)	Aims: to explore the self-image of youth with upper limb differences Photovoice questions: Take photos that represent your self-image (how you feel about yourself)	Participants either used their own smartphones or borrowed a digital camera. The photovoice study was conducted over 3 days Participants each selected one photo for discussion in a group discussion using the SHOWeD method	A slideshow of photos and findings
88. Ingram (2014) Canada	7 participants (F-7) 14–19 years	Aims: to explore girls' perspectives on gender, citizenship and schooling	The photovoice study was conducted over 10 months (involving monthly meetings lasting 4–6 hrs each) Photos were discussed in a group	Photo exhibit
89. Irby et al., (2018) USA	10 participants (F-5, M-5) 13–17 years 8 - Black, 1 - American Indian, 1- White	Aims: to explore the concept of violence from the perspective of adolescents	Participants used their own smartphones The photovoice project was conducted over 12 weeks in weekly meetings Participants each shared up to 3 photos in a group discussion.	Community forum Video
90. Joanou (2009) Peru	8 participants (M-8) 14–17 years All participants experiencing extreme poverty	Aims: to explore the experiences of adolescents living and working on the streets in Lima, Peru.	The photovoice project was conducted over 11 months Photos were discussed in both individual and group discussions.	None reported
91. Joanou (2017) Peru	6 participants (M-6) 14–18 years All participants experiencing extreme poverty	Aims: to explore the experiences of adolescents living and working on the streets in Lima, Peru. Photovoice questions: take pictures of the spaces throughout the city that are important to you or document a 24-h period in your lives	Single use, analogue cameras were used The photovoice project was conducted over ~6 months Participants had one week to take photos	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
92. Johansen & Le (2012) USA	21 participants (F-8, M-8, 5- not reported) 14–18 years 3- White, 1 - Asian, 2- Mexican 1 - Latino, 3 - South east Asian 1 - did not disclose, 1 - White Hispanic, 1 - Puerto Rican/Italian, 3 - African American, 1 - Black, 2 - Honduran, 2 - West African Recruited from 2 low SES neighbourhoods and 1 middle class neighbourhood	Aims: to explore youth's perspectives about multiculturalism and its potential role with respect to youth's interpersonal relationships	Participants were provided with camera phones Participants selected 2–3 of their favourite photos to discuss in a group, photos were also discussed in an individual interview using the SHOWeD method	None reported
93. Johnson et al., (2017) USA	17 participants (F-10, M-7) 10–13 years All African American	Aims: to understand the perceptions of urban African American youth on their food environments and diets	Digital cameras were used The photovoice study was conducted over 4 sessions Participants selected 2–3 of their favourite photos to discuss in a group using the SHOWeD method	Presentation to stakeholders
94. Johnson et al., (2019) Tanzania	8 participants (F-3, M-5) 13–17 years All experiencing poverty	Aims: To explore youth strengths and assets Photovoice questions: take 10 to 20 images showing youth strengths and assets	The photovoice study was conducted in one session of 2-hrs. Photos were discussed in a group	results presented at a meeting to stakeholders
95. Joseph (2017) USA	30 participants (F-15, M-15) 14–17 years* All Latinx Low-income	Aims: to explore the ways in which this school shapes the overall experiences of low income Latinx students. Photovoice questions: take 10 pictures of places or items that represent your culture, language, traditions, struggles, and community. Take 5 culturally relevant pictures of any artefact.	Disposable cameras were used The photovoice study was conducted over 7-months Participants had 2 months to take photos Photos were discussed in a group	None reported
96. Joyce et al., (2018)	7 participants (F-7) 15–18 years* 6- White, 1 - African American	Aims: to examine the elements of the school environment that foster connection and disconnection to school Photovoice questions: take photos depicting what makes you feel connected to and disconnected from your school.	Participants had 3 weeks to take photos Photos were discussed in a group using a modified version of the SHOWeD method.	The preliminary study results were provided to stakeholders

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
97. Kelly et al., (2017) USA	14 participants (F-3, M-11) 11–14 years All American Indian	Aims: to Explore opportunities and barriers to healthy eating in adolescents' environments Photovoice questions: Opportunities for healthful eating in your environment Challenges for healthy eating in your environment Native/Traditional foods and customs	Disposable cameras were used Participants had 2 weeks to take photos Photos were discussed in individual interviews and groups using a modified version of the SHOWeD method	Collage exhibits
98. Kessi (2011) Tanzania and South Africa	39 participants 12–19 years	Aims: to engage young people in a series of activities using Photovoice that would enable them to get involved in social change efforts Photovoice question: take photos of something you wanted to change in your community	In South Africa the sessions took place for several hours per week over a six-month period. In Tanzania, intensive sessions took place over 1–2 weeks. Photos were discussed in groups	Three exhibitions Magazine and newspaper coverage
99. Khanare (2012) South Africa	10 participants 16–18 years All participants from households with no regular income	Aims: to explore the role of schools in enabling or limiting coping in HIV affected adolescents Photovoice questions: Take photos to represent your experiences of coping with the adversities of HIV and AIDS in your school	Digital cameras were used Participants had 45 minutes to take photos Photos were discussed in a group using the SHOWeD method.	None reported
100. Khoo (2015) Mexico	6 participants (F-4 - M-2) All from vulnerable socioeconomic backgrounds	Aims: to explore young people's descriptions of their experience of everyday life in one institutional care setting in Mexico, with a focus on their daily activities and their relationships to significant others.	Digital cameras were used Participants chose 5–10 photos to discuss in a group	None reported
101. Kia-Keating et al., (2017) USA	22 participants 14–18 years* All Latino	Aims: to explore the Latino community's view of its own health problems related to experiences of violence, acculturative stress, discrimination, and disparities, as well as their negative effects on youth and families	Digital cameras were used Photovoice project conducted over 6 months (meeting daily for 90 minutes on weekdays when school was in session). Participants had a week to take photographs Photos were discussed in small groups using the SHOWeD method	Local exhibits A video shared on an open-access website. The video was also shared at local meetings and national conferences.

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
102. Kim & Lee (2015) South Korea	12 participants (F-6, M-6) 11–12 years*	Aims: to explore How students perceive class content and their lives?  Photovoice question: Photograph things that are relevant to the expressive activity class	Disposable cameras were used The photovoice project was conducted over three sessions. Participants had one week to take photos. Photos were discussed in a group	None reported
103. Kimera et al., (2020) Uganda	11 participants (F-6, M-5) 15–19 years	Aims: to explore how youth living with HIV in Western Uganda experience HIV-related stigma and its effect.  Photovoice questions: take photos to portray your experiences of HIV-stigma and the effect of this stigma in your community	Digital cameras were used The photovoice project was conducted over 5 weekly sessions (each session lasting ~ 2.5 hrs) Participants had one week to take photos Participants shared at least 5 photos each in a group discussion using the SHOWeD method	Exhibition of photos and stories at the annual regional youth conference Findings presented to stakeholders Text books
104. Kor & Lim (2020) Malaysia	6 participants 11 years	Aims: to explore participants' conception of a good mathematics lesson.  Photovoice question: Take photographs of the most effective moment in their mathematics lesson	Digital cameras were used Photos were discussed in a group using the SHOWeD method.	None reported
105. Krieg (2016) Canada	6 participants (F-6) 16–18 years 4- First Nation, 2- Metis	Aims: to explore the lived experiences of young Indigenous women, through youth-identified issues and responses to the challenges experienced by Indigenous girls residing in urban centres  Photovoice questions: Tell me what it means to be a young, Indigenous female in Prince Albert, Saskatchewan	Photos were discussed in a group	Art exhibit Academic conference
106. Kroeger et al., (2004) USA	6 participants (F-3, M-3) 11–14 years*	Aims: Exploring at-risk students experiences  Photovoice questions: take pictures that depicted your lives as learners	Photos discussed in individual and group discussions	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
107. Lam et al., (2019) Canada	16 participants (F-9, M-7) 14–17**	Aims: to explore the relationship between engagement with school gardens and well-being Photovoice questions: Take photo of aspects in the school garden that take your attention	Digital cameras were used The photovoice project was conducted over 5 months (involving 7 meetings) Photos were discussed in focus groups	2 public art gallery exhibitions; Sharing research summaries with stakeholders Presentation at symposium Poster presentation
108. Leal et al., (2018) Brazil	12 participants (F-12) 13–19 years	Aims: To explore the experiences of adolescent mothers who breastfeed. Photovoice questions: What facilitates breastfeeding your child? What makes it difficult for you to breastfeed your child?	Disposable cameras or personal smartphones were used Participants had up to 10 days to take photos Photos were discussed in individual interviews and one focus group	Community and academic presentations
109. Leung et al., (2017) USA	12 participants (F-7, M-5) 11–14 years 11- Hispanic of Black African, 1 - White All participants low income	Aims: to understand youth perceptions related to food justice within their own community and identify solutions to promote positive change Photovoice questions: document barriers and facilitators of healthy eating in various venues, including street carts/vendors, fast food establishments, and bodegas What influences me to eat healthy or unhealthy in my home environment? If you could make a change in your environment regarding food, what would you do?	Digital cameras were used The photovoice project was conducted over 10 weeks (6 sessions) Participants had 1 week to take photos Participants selected 2–3 photos that they felt best answer the assignment question to discuss in individual interviews or groups using an adapted version of the SHOWeD method	Photo exhibit

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
110. Leung et al., (2017) China	12 participants (F-6, M-6) 11–12 years	Aims: to explore migrant youths' perceptions of their nutrition, physical activity, and health environment Photovoice questions: What influences me to be healthy or unhealthy related to personal safety in my community? What influences me to make healthy and unhealthy choices in my community food and PA environment?	2 × disposable cameras were used The photovoice project was conducted in 5 weeks (involving 5 weekly sessions, 75–90 mins in length) Participants had 4–5 days to take photos Photos were discussed in group and some individual interviews using the SHOWed method	None reported
111. Li & Todd (2019) USA	21 participants (F-3, M-18) 11–16 years* 6- White, 2- East Asian, 3- Latino – 1- Middle Eastern, 9 - South Asian	Aims: to understand the opportunities and desired outcomes of makerspaces in libraries from young people's perspectives. Photovoice questions: Take a photo of your most/least favourite spot in the makerspace Your favourite/least favourite stuff to use in the makerspace	Photos were discussed in a group	None reported
112. Lieblen et al., (2018) Norway	7 participants (F-5, M-2) 17–19 years*	Aims: to understand factors that support school attendance and completion	Mobile phones were used to take photos The photovoice project was conducted over 5 weeks Participants selected 2–5 photos each to discuss in group and individual interviews	Photo exhibition at the school Local newspaper report Presentation at meetings with stakeholders
113. Liegghio (2016) Canada	7 participants (F-3, M-4) 14–17 years 5- Caucasian, 1- Black Caribbean, 1- Filipino/Middle Eastern 3 - low income, 2- middle income, 2- high income	Aims: to explore what normal mental health is in youth. Photovoice questions: what is normal mental health in youth	Disposable cameras were used The photovoice project was conducted in a month (consisting of 3 sessions) Photos were discussed in a group	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
114. Lightfoot et al., (2019) Merino et al., (2020) USA	13 participants (F-6, M-7) 14–18 years All Latinx	Aims: to explore Latino youth's perspectives on US healthcare Photovoice questions: How my heritage affects my health; how crossing the border affects my health; how my education affects my life; and how the challenge of paying for health-related things affects me. OR What I do every day; my life before I or my family came to the U.S.; my life right after I arrived here; and how my gender affects how I relate to the doctor.	Digital cameras were used The photovoice project was conducted over 9 weeks (involving 8 meetings) At each photo discussion the youth shared up to three photos. Then out of these photos each group selected by consensus one trigger image. Photos were discussed in a group using the SHOWeD method	Two forums sharing the themes and photos with stakeholders
115. Lindqvist et al., (2019) Sweden	35 participants (F-20, M-15) 12–13 years	Aims: to explore the experiences of schoolchildren and parents participating in an intervention to promote students' walking or cycling to school in winter. Photovoice questions: What is it like to walk or cycle to school in the wintertime?	Participants used their own mobile phones to take photos Participants had one month to take photos Participants selected at least 2 of their photos to write about. In the group discussion participants were asked to pick three pictures that best represented the question	None reported
116. Livingood et al., (2017) USA	9 participants 15–19 years	Aims: to explore adolescent obesity, to develop an invention to reduce obesity Photovoice questions: Take pictures of what contributes to obesity Take photos of aspects of your environment that encourage or create barriers for healthy living	Photos were discussed in a group	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
117. Lofton et al., (2020) Malawi	24 participants (F-12, M-12) 13–17 years	Aims: to identify and examine how places and situations are either protective or facilitative of engaging in risky sex and to develop action plans to address this.  Photovoice questions: Take photographs of places or situations that encourage or discourage engagement in risky sex	Smartphones were provided to participants to take photos  The photovoice project was conducted in 8 sessions (lasting 2hrs each)  Photos were discussed in a group using the SHOWeD method	Action plans
118. Lofton et al., (2019) USA	23 participants (F-12, M-11) 11–14 years All African American Participants recruited from low-income neighbourhoods	Aims: to identify the food choices of African American youth and the cultural influences that shape these food choices  Photovoice questions: take photos of influences affecting food choice	Disposable cameras were used Participants had 2-weeks to take photographs Participants selected 3–5 photos each to discuss in a group	Posters
119. Luttrell et al., (2010) USA	10–12 years* All working class Asian, Iranian, South American	Aims: to explore how children perceive and navigate linguistic, cultural, race/ethnic and economic differences, family-school relationships, and self and identity changes over time  Photovoice questions: Imagine you have a cousin your age that is moving to town and coming to your school. Take pictures of the school, your family and community that will help him/her know what to expect OR whatever matters most	Disposable cameras were used Participants had either 4 days or 1–2 weeks to take photos Participants discussed all photos in individual interviews or groups	Video clips Exhibitions

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
120. Madden et al., (2016) USA	9 participants (F-9) 14–17 years 1- African American, 1- Black & Dominican, 1- Chinese, Guyanese, & Indian, 1- Irish & Jewish, 1- Latina, 1- Puerto Rican, Spanish & French	Aims: to explore how girls feel about their body image, and where they learn the messages about what a female body should be. Photovoice questions: Where do you receive your messages about body image? What causes you to feel a certain way about your body? What does positive body image look like? What does negative body image look like? What are some cultural stereotypes of body image? What are the aspects of body image that you/ teenage girls/culture focus the most on? What sums up body image in your world?	Digital cameras were used The photovoice session was conducted over 4 monthly sessions (each session 2-hrs) Participants selected three images that were most representative of the question they wanted to address Photos were discussed in a group using the SHOWeD method	A Tumblr blog was set up to showcase the results of the project and act as a virtual exhibit space. Presentation at a conference
121. Madrigal et al., (2014) USA	15 participants (F-9, M-7) 14–18 years All Latino of Mexican descent	Aims: to teach environmental health to 15 high school youth while building their individual and community capacity for studying and addressing shared environmental concern Photovoice questions: take photos of environmental health issues in your community, highlighting both problems and assets.	Digital cameras were used The photovoice project was conducted over 12 weeks (with 12 weekly session lasting 2 hrs each) Participants had 1 week each assignment to take photos Participants shared 10 photos each in every group discussion, but selected one photo to discuss in more depth Photos were discussed in a group setting using the SHOWeD method	Findings presented on radio, television and local community events Two action plans: including a 5k walk/run and a school recycling project Photos and summaries shared at events including a forum
122. Malherbe & Kaminer (2020) South Africa	17 participants (F-8, M-9) 13–16 All participants black isiXhosa	Aims: to explore how isiXhosa- speaking adolescents construct fathering roles and responsibilities in South Africa Photovoice questions: photograph what being a father in South Africa means to you	Disposable cameras were used (with 27 exposures) The photovoice project was conducted in one month (participants met weekly) Participants had 2 weeks to take photographs Participants selected 5 of their favourite photos to discuss in paired interviews	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
123. Malherbe et al., (2016) Suffla et al., (2012, 2015) Mozambique, Uganda, Zambia, Egypt and Ethiopia	11–15 years participants recruited from low-income communities	Aims: to explore young people's representations of safety in their communities, as characterized by both assets and risks, and to stimulate youth-driven safety promotion action Photovoice questions: Things, places and people that make me feel safe and unsafe in my community	Disposable cameras were provided Participants had one week to take photos Photos were discussed in individual interviews and group discussions	Photo exhibits Forum for policymakers
124. Markus (2012) USA	6 participants (F- 3, M-3) 18–19 years All American Indian	Aims: to empower young American Indian people to learn about the role of healthy relationships in the prevention of HIV, STIs and unintended pregnancy and to explore their own experiences with healthy relationships Photovoice questions: Consider what a healthy relationship means to you, who/ what supports and/or presents challenges to you in building and maintaining healthy relationships, and what you need in order to build and maintain healthy relationships	The photovoice project was conducted over 3 days Participants had one day to take photos Photos were discussed in a group	Presented at symposium and conferences Art exhibition
125. Mathews et al., (2010) USA	9 participants (F- 9) 13–15 years All African American All low-income	Aims: to develop a community health change project for at-risk adolescent girls Photovoice questions: take photos of the community's strengths and needs	The photovoice projects were conducted in 5–6 months	Two community projects: lead poisoning awareness fair and a lock-in to educated about child maltreatment Presentation to stakeholders
126. McCollum et al., (2019) Kenya	9 participants (F-5, M-4) 16–18 years All participants living in informal settlements with high levels of poverty	Aims: To examine health for vulnerable individuals following devolution in Kenya Photovoice questions: take photos representing health in the community and life hazards.	The photovoice project was conducted over 6 days Photos were discussed in a group	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
127. McHugh et al., (2013) Canada	15 participants (F- 8, M-7) 12–15 years	Aims: to explore the meaning of sport for Aboriginal youth Photovoice questions: Take photos of objects, events, places, or people that represent your meaning of sport	Disposable cameras were used Participants had one day to take photos Participants selected 2–3 photos that were most representative. Photos were discussed in group talking circles	None reported
128. McMahon & Pederson (2020) USA	17 participants (F-7, M-10) 14–18 years 10 - Black, 5- White, 2- Latino Mainly from economically disadvantaged neighbourhoods	Aims: to understand youth participants' perceptions of the impact of a trauma-responsive restorative justice diversion program that teaches nonviolent communication on themselves, their relationships, and interactions with other people in their lives Photovoice questions: This is how I was before participating in this program This is how the program has impacted me This is how the program has impacted my relationships and/or interactions with other people	Participants used their own smartphones, disposable cameras were also available The photovoice project was conducted in 14 weeks Participants had 2 weeks to take photos Photos were discussed in a group	None reported
129. Miled (2020) Canada	10 participants (F-10) 14–19 years 3- Arab, 1 - Persian, 3- Kurdish, 1- Somali, 1- Sudanese, 1- Tajik Recruited from low-income school	Aims: to explore how Muslim youth attending a Canadian public high school negotiate their identities and sense of (un)belonging to Canada and how their school experiences impact this process. Photovoice questions: Take at least 10 photos that would tell the facets of the story of being Muslim and becoming a refugee	Digital cameras were used The photovoice study was conducted over 8-months Participants had 8-weeks to take photos Photos were discussed in a group using the SHOWeD method	Three exhibitions
130. Mitchell et al., (2006) South Africa	11–12 years*	Aims to explore Friday absenteeism amongst school students	Point and shoot cameras were used The photovoice study was conducted over 5 sessions	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
131. Mmari et al., (2014a, b), Yu et al., (2019), Olumide & Ojengbede (2016, 2018), Olumide et al., (2016) USA, China, South Africa, India, Nigeria	48 participants 15–19 years Recruited from disadvantaged urban communities	Aims: To examine how young people describe their physical environment to influence their health  Photovoice questions: Take photos that capture what you believe is the meaning of health in your community	The Photovoice project was conducted over 4–10 days depending on location. Participants had a day to one week to take photos depending on location Participants selected between 5–10 of their favourite photos to discuss. Photos were discussed in a group using the SHOWeD method	None reported
132. Moletsane et al., (2007) South Africa	21 participants (F-12, M-9) 13–15 years*	Aims: to promote awareness of HIV and HIV-related stigma amongst youth  Photovoice questions: take pictures of situations depicting HIV stigmatisation	The photovoice project was conducted over 4 sessions (each 90 minutes in length) Participants had 45 minutes to take photos Participants selected their two best photos to write about, which was then shared in a group	Performance of a short play
133. Motsa (2018) Swaziland	15 participants (F-15) 12–16 years	Aims: to understand the ways in which the girls utilize gender to navigate challenges associated with schooling within highly patriarchal contexts, and the implications of these on gender equality and the girls' social and academic wellbeing  Photovoice questions: Take photos of spaces and places that hold meaning for your gendered schooling experience either positively or negatively	Disposable cameras were used The photovoice project was conducted over 6 months Participants had 4 days to take photos Photos were discussed in individual interviews and groups	None reported
134. Motsa & Morojele (2016, 2017, 2018) Swaziland	6 participants (F-3, M-3) 11–15 years All participants low SES	Aims: to explore how vulnerable children resiliently navigate their schooling spaces  Photovoice questions: Take photos of spaces and places that hold meaning for your real-life schooling experiences either positively or negatively	Disposable cameras were used (with 27 exposures) Participants had 4 days to take photos Photos were discussed in individual interviews and groups	None reported

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
135. Motsa & Morojele (2019) Swaziland	15 participants (M-15) 11–16 years All low SES	Aims: to understand the ways in which vulnerable boys make meaning of masculinities and the implications of these on their social and academic well-being in schools Aims: take photos of spaces and places that hold meaning to your real-life schooling experiences	Disposable cameras were used (with 27 exposures) Participants had 3 days to take photos Photos were discussed in individual interviews and groups	None reported
136. Mukumbang & van Wyk (2020) South Africa	21 participants (F-12, M-9) 10–19 years	Aims: to understand medication non-adherence amongst adolescents living with HIV	Participants were provided with smartphones to take photos Participants had ~1 week to take photos Photos were discussed in groups	None reported
137. Necheles et al. (2007) USA	13 participants (F-11, M-2) 13–17 years	Aim: To identify influences on health behaviours with the intention of developing advocacy projects. Photovoice questions: Take photos that contribute to healthy or unhealthy activities	Digital cameras were used. The Photovoice project was conducted over 5 months, (involving nine 2-hr sessions) Participants selected 10 images to discuss in multiple group discussions and semi structured interviews. The SHOWeD method was used to facilitate discussions.	Health education posters were created and exhibited in schools and a science museum.
138. NeMoyer et al. (2020) USA	100 participants (F-51, M-49) 14–19 years	Aims: to explore youth's perspectives on the structural and social characteristics of their communities and how they might affect well-being	Participants used their own phone or cameras Photos were discussed in individual interviews	None reported
139. Ngidi & Moletsane (2019) South Africa	27 participants (F-13, M-14) 14–17 years All participants low income	Aims: to explore sexual violence in a secondary school in South Africa Photovoice questions: As an orphan, take pictures representing what sexual violence looks like in and around your school environment.	Participants had 2 hours to take photos Photos were discussed in a group	None reported

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**Table 2.** (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
140. Nichols et al., (2016) USA	12 participants (F-11, M-1) 12–16 years 11-African American, 1-White	Aims: to understand participants' perspectives on access to physical activity and nutritious food  Photovoice questions: take photographs that visually depict the barriers and facilitators towards access to healthy foods AND  Barriers and facilitators of physical activity	Digital cameras were used  Participants had 2 weeks for each photo assignment  Participants selected 3–5 photos that were the most meaningful for them to discuss in semi structured interviews and groups using the SHOWeD method	Meeting with stakeholders  Art exhibition
141. Nolbeck et al., (2020) Sweden	14 participants (F-8, M-6) 15–19 years	Aims: to explore adolescents' lived experiences of the socio-spatial environment of involuntary institutionalised care  Photovoice questions: take photos of various aspects of your immediate surroundings that you associate with a feeling, positive or negative	Polaroid cameras were used  Photos were discussed in in-depth interviews	None reported
142. Oh (2011, 2012) Thailand	65 participants (F-29, M-36) 10–17 years All Burmese refugees	Aims: To explore the experience of internal displacement and forced migration from the viewpoint of children living in a refugee camp in Thailand  Photovoice questions: take photos of whatever catches your fancy	Digital cameras were used  The photovoice project was conducted over 2 months, involving 4–6 sessions with each participant  Photos were discussed in interviews	None reported
143. Osseck et al., (2010) USA	6 participants 13–17 years All white	Aims: to explore and address youths' concerns in a juvenile detention facility  Photovoice questions: Take photos of your day-to-day life inside and outside of the detention centre showing any concerns you have	Digital cameras were used  Participants had one week to take photos  Photos were discussed in small groups (pairs of participants)	Slideshow of photos at an exhibition
144. Overby et al., (2015) USA	103 participants 14–18 years*	Aims: to raise awareness of and engagement in school wellness efforts  Photovoice questions: take photos of strengths and weaknesses of your school wellness environment	Participants had one week to take photos  Photos were discussed in a group using the SHOWeD method	Photo exhibit

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
145. Oyarzun-Gomez & de la Pava (2019) Chile	170 participants (F-105, M-65) 14–18 years	Aims: to explore students' perceptions regarding the relationship between subjective well-being and the school sense of community. Photovoice questions: take at least ten pictures of your school life associated with people, situations, or places	Participants had 10 minutes to take photographs Photos were discussed in groups	None reported
146. Pavlopoulou & Dimitriou (2020) Greece	11 participants (F-11) 13–14 years All from lower income families	Aims: to explore the experiences, needs and perspectives of adolescent sisters who have grown up with a preverbal autistic brother or sister Photovoice question: tell the story of what it means to be a sister of an autistic preverbal brother or sister	Participants either used their own iPad or phone cameras or borrowed a digital camera The photovoice project last 9 months (involving 39 meetings) Participants had three weeks to take photos Photos were discussed in groups using the SHOWeD method and in individual interviews	A week of community events including a multimedia presentation, panel discussions Action plan Exhibitions across Greece Participated in the Sibling's research advisory group (SRAG)
147. Pearce & Coholic (2013) Canada	6 participants (F-6) 14–18 years All Cree nation	Aims: to explore how Aboriginal adolescent girls, living away from their home communities, understood and navigated some of the tasks associated with adolescence, especially identity formation Photovoice questions: What you need to know about me	The photovoice project was conducted over 30 weeks, including 13 meetings (lasting ~90 mins – 2 hrs) Participants choose 8–10 photos each to discuss and analyse with the group Photos were discussed using the SHOWeD method	Photo display Scrap books created and displayed at a community event
148. Petteway et al. (2019) USA	14 participants 10–14 years*	Aims: to explore how youth from a high- tobacco-burden community perceive/interact with their local tobacco environment Photovoice questions: your perspectives on the tobacco environment and community health	Digital cameras were used At each review session participant selected their five favourite photos to write a narrative for	Exhibitions Presentations at conferences
149. Pfister (2020) Mexico	19 participants 11–12 years*	Aims: to explore the experiences of deaf youth and their families	The photovoice project was conducted over two semesters with weekly after-school meetings	Exhibitions

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**Table 2.** (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
150. Pollock et al., (2019) UK	4 participants ( <i>M</i> -4) 13–15 years	Aims: to explore the school experiences of learners identified as having literacy difficulties  Photovoice questions: take 10 or more photos of anything that would help others to understand your experience of school	Disposable cameras were used  The photovoice project was conducted in 8 weeks, meeting once a week for 35 minutes  Participants selected their top 6 photos to discuss in a group	None reported
151. Pritzker et al., (2012) USA	15 participants ( <i>F</i> -12, <i>M</i> -3) 15–16 years* 14- Latino/a, 1- African American Low income neighbourhood	Aims: How did participation in a civic action program impact youth's social self-efficacy, empowerment, community attachment, and anticipated civic engagement?  Photovoice questions: capture anything you think those inside and outside your community should see in order to better understand your community's situations, strengths, and concerns.	Digital or disposable cameras were used  The photovoice project was conducted over 1 semester, involving 14 sessions (lasting 90 minutes)  Photos were discussed in a group using the SHOWeD method	None reported
152. Richter et al., (2020) Canada	38 participants 13–18 years All born outside Canada	Aims: The purpose of the study was to explore health literacy and community engagement in relation to active living  Photovoice questions: take photos to represent what you consider to resemble active and healthy living	Participants had 2 weeks to take photos  Participants selected three photos that best represented their view which were then discussed in a group	None reported

(Continued)

Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
153. Riggsbee et al., (2019) USA	6 participants 14–15 years	Aims: to better understand the perceptions of adolescents' food environments and related food behaviours Photovoice questions: take pictures of your community and home food environments including anywhere you acquire food, any foods you commonly eat, any meals, any depictions of the different types of food environments you encounter	Smartphones were used to take photos Participant had one week per photo assignment to take photos	None reported
154. Rogers et al., (2018) UK	7 participants (M-7) 14–16 years 6- Afghanistan, 1-Albanian	Aims: to share the voices of unaccompanied asylum seeker children and their lived realities of growing up in foster care. Photovoice questions: take photos of things that are important to you in your day to day lives, people, places, and objects.	Digital cameras were used	Posters exhibited in community spaces Presentation to stakeholders
155. Rose et al., (2016, 2018) USA	12 participants (F-9, M-3) All from areas of high poverty	Aims: to explore urban youth perceptions of coping, wellbeing and agency among urban youth Photovoice questions: Think about what coping means to you Take pictures of places, things, or people that represent coping Think about what makes someone happy or feel good about themselves	Disposable cameras were used Participants had 4 weeks to take photos Photos were discussed in a group	Exhibition Presentation to stakeholders
156. Roxas et al., (2017) USA	10 participants (F-4, M-6) 11–14 years* All participants immigrated to the US incl. Mexico, Yemen, Saudi Arabia, Korea	Aims: what can we learn to better serve immigrant youth at school Photovoice questions: document your lives in and out of school and your hopes for your educational futures	Digital cameras were used The photovoice project was conducted over a year, involving six, 3-hour long sessions Participants had one week to take photos Photos were discussed in a group	A month long exhibition including poster presentations

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**Table 2.** (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
157. Sackett & Dogan (2019) USA	8 participants (F-5, M-3) 14–17 years 6- African American, 1- Mixed race, 1- Native American/black	Aims: To explore black teens' experiences of their own racial identity  Photovoice questions: photograph people, places, and things that could convey your perspectives on the issue of race.	Waterproof disposable cameras were used (with 27 exposures)  The photovoice project was conducted over 2 weeks, involving 2 session  Participants had one weeks to take photos Participants selected 1–2 photos to discuss in a group using the SHOWeD method	Slide show
158. Sackett et al., (2016) USA	7 participants (F-7) 14–17 years All white	Aims: What are adolescent girls' perspectives of environmental influences on childhood obesity?	Waterproof disposable cameras were used (with 27 exposures)  The photovoice project was conducted over 2 weeks, involving 2 session  Participants had one weeks to take photos Participants selected 1–2 photos to discuss in a group using the SHOWeD method	Slide show
159. Sackett et al., (2018) USA	5 participants (F-5) 11–13 years 3- African American, 1 - African American/ Jamaican 1- White	Aims: to explore girls' perspectives of environmental barriers to outdoor physical activity  Photovoice questions: photograph people, places, and things that could convey your perspectives on the issue of physical activity	Waterproof disposable cameras were used (with 27 exposures)  The photovoice project was conducted over 2 weeks, involving 2 session  Participants had one weeks to take photos Participants selected 1–2 photos to discuss in a group using the SHOWeD method	Slide show
160. Saimon et al., (2015) Malaysia	36 participants (F-21, M-15) 13–17 years All indigenous	Aims: to explore the rural environmental factors that influence adolescents' participation in physical activities  Aims: Take pictures of your neighbourhood that you perceive to have an impact on your outdoor play.	Digital cameras were used  Participants had 2 weeks to take photos Each group chose ~ 15 pictures that were most representative to discuss in a group using the SHOWeD method	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
161. Sanchez et al., (2021) USA	17 participants (F-17) 11–12 years 13- Mexican American, 1 - Honduran American, 1 -Cuban American Low-income	Aims: to understand the intersection of race, gender, and sexual health in adolescent Latinas Photovoice questions: What does being (insert culture and gender) mean to you? What does a healthy relationship look like? What does an unhealthy relationship look like? What is important for Latina adolescent girls to know about their sexual health?	Polaroid cameras were used The photovoice project was conducted in 12 weeks Participants had one week to take photos Photos were discussed in a group using the SHOWeD method	School exhibition
162. Sarrica & Brondi (2018) Italy	150 participants 11–12 years	Aims: to explore adolescents' visual representations of their own ideas of sustainable energy	Photos were discussed in small group discussions	Discussion of results to stakeholders
163. Schlenhofer et al., (2018) USA	78 participants (F-44, M-34) 11–14 years 56 - African American, 10 - Haitian, 5- Latinx, 3- Caucasian, 4- Mixed race Predominantly low income	Aims: to explore how middle school youth perceive bullying Photovoice questions: take as many photos that you feel exemplifies bullying. Photos can be figurative or literal interpretations of bullying	Digital cameras were used The photovoice project was conducted in three weeks Participants had one week to take photos Participants selected 2 photos that they wrote descriptions for	Public art exhibit Educational posters for display in county public schools. Training videos for use in county public schools.
164. Sekaran et al., (2020) India	21 participants (F-10 M-11) 14–19 years	Aims: to explore the emotions that adolescents attach to the spaces they occupied and how they frame their social relationships with their family members and peers and their psychological adjustment. Photovoice questions: take photos of your routine lives and interactions with family and peers that you perceive as holding personal meaning	Participants had ~1 week to take photos Photo were discussed in individual interviews using the SHOWeD method	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
165. Seok et al., (2018) South Korea	10 participants (M-10) 12–17 years	Aims: to explore adolescents' motivations for internet games, how their lives are affected, how they perceive internet games, what they gained and lost, and how they made sense of internet gaming addiction  Photovoice questions: take photos that best reflect your experiences related to internet games and the meaning of the internet game addiction.	Digital cameras were used  The photovoice project was conducted over 3 months, involving 6 sessions lasting 3 hours each  Participants selected two photos to discuss in a group	None reported
166. Shah (2015) India	13 participants (F-13) 14–16 years	Aims: to explore the relationship between schooling and girls' empowerment  Photovoice questions: Take pictures of anything at the school or in the village, in any way you want, that will help me understand something about your life  Take photographs that help me understand what women and girls do, including the lives, work, daily routines, etc., of women and girls in schools, villages, and farms around the school	Disposable cameras were used  Participants selected their 5 favourite photos to share in a group discussion.  Participants also completed individual interviews.	Photo exhibit
167. Shea et al., (2011, 2013) Canada	20 participants (F-20) 13–16 years All First Nation	Aims: To understand knowledge about youth perspectives of health, particularly among First Nations girls	Digital cameras were used  Photos were discussed in individual interviews and group sharing circles	Community event

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
168. Sidibe et al., (2018) USA	7 participants (F-7) 13–17 years 5- African American, 2- Mixed race	Aims: to explore the perspectives and experiences of African American female youth and gain an understanding of how early adolescent development impacts their HIV risk.  Photovoice questions: Why is HIV/AIDS an epidemic in the Black community? How do the people around us influence our risk behaviour? How can our community support people in making healthy decisions about sex, and what challenges do they face? What challenges does the Black community face in addressing HIV/AIDS?	Disposable cameras were used Photos were discussed in a group using the SHOWeD method	None reported
169. Simmonds et al., (2015) South Africa	5 participants (F-5) 13–15 years	Aims: to explore how adolescent females experience gender equity.  Photovoice questions: Take photographs of landscapes/objects/people/situations/symbols anywhere in your school and home environment to express what you perceive and experience as gender equity.	Disposable cameras were used The photovoice project was conducted in one month Participants had 10 days to take photos Participants selected between 5–10 photos to discuss in individual interviews. There was also a group discussion using the SHOWeD method	None reported
170. Simpson et al., (2020) USA	63 participants (F-43, M-20) 40% - African American, 41% - White, 13% - Hispanic Latino, 5% - Mixed race Low income families	Aims: to document the everyday, lived difficulties experienced by low-income teens relative to healthy food access  Photovoice questions: take at least 10 photos that depict food access, intake, or environment in their daily lives.	Digital cameras were used The photovoice project was completed in 6 weeks, involving 4 sessions, lasting ~ 1 hour each. Participants had 2 weeks to take photos Participants selected 3 images to write a narrative for, and discussed 1 image each in a group discussion using the SHOWeD method	Presentations to stakeholders

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
171. Skovdal & Ogutu (2009, 2012), Skovdal et al., (2009), Skovdal (2011), Skovdal & Andreouli (2011) Kenya	48 participants (F-28, M-20) 11–17 years Living in a high poverty area	Aims: to further our understanding of caregiving children in Africa, how children cope with the demands of disease and poverty, and the role of friendship in coping with hardship Photovoice questions: What is your life like? What is good about your life? What makes you strong? What needs to change?	Disposable cameras were used The photovoice project was conducted in 2 weeks Participants had 2 weeks to take photos Participants selected their 6 favourite photos to discuss in individual interviews and group discussions. Participants also wrote narratives for selected photos	Action plans
172. Smith & Hope (2020) USA	5 participants (M-5) 15–16* All Black	Aims: to explore the meaning Black boys make of race, identity, and oppression through their school experiences in a suburban high school	The photovoice project was conducted in 11 weeks, involving weekly sessions. Photos were discussed in a group	None reported
173. Sommer et al., (2020) Tanzania	40 participants 15–19 years	Aims to explore adolescents' experiences of alcohol and sex Photovoice questions: Take photos of things in the environment that pressure youth to drink alcohol, and things in the environment that make it difficult for youth who are drinking alcohol to use condoms if they decide to have sex	Disposable cameras were used The photovoice project was conducted in ~2 weeks Participants had one week to take photos Participants selected 2–3 photo each to discuss in a group	None reported
174. Sonn et al., (2011) South Africa	18 participants (F-11, M-7) 13–18 years All participants experiencing high poverty	Aims: to explore health promotion in schools Photovoice questions: what makes your school a health promoting school and what does not	Digital cameras were used Participants had 2 weeks to take photos Each pair of participants selected and presented their 2 most meaningful photos in paired interviews using the SHOWeD method	Exhibition at school and presentation of photos

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
175. Soriano-Ayala et al., (2019) Spain	45 participants (F- 22, M-23) 13–17 years 10 - Romanian, 15- Moroccan, 20 - Spanish	Aims: To identify transcultural and cultural assets related to health in a group of Moroccan, Romanian and Spanish adolescents Photovoice questions: take 15 to 20 photographs on what makes me lead a healthy life? What objects, persons or situations do I associate with health? What favours and maintains my health?	Cameras were made available to participants who did not own cameras or mobile phones The photovoice project was conducted in ~9 months Participants selected their 6 most relevant images to discuss in individual interviews using the SHOWeD method	None reported
176. Spencer et al., (2019) Canada	7 participants (F- 5, 2- undisclosed) 15–18 years*	Aims: to understand youth perspectives of school food.	Most participants used their own phones to take photos, but digital cameras were available to be borrowed. The photovoice project was conducted over 3 sessions Participants had 1–3 weeks to take photos Photos were discussed in a group using the SHOWeD method	None reported
177. Staab et al., (2016) India	30 participants (F-15, M-15) 12–14 years	Aims: explore children's perceptions of their food and activity habits Photovoice questions: take 5–10 photos showing what activities you like to do Take 4–8 photographs of common food items used for cooking that are available in your house today Take 4–8 photographs of food/drinks that you would like to eat right now.	Disposable cameras were used Participants had 4 days to take photos Participants provided narratives for their photos.	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
178. Stanley et al., (2018) USA	16 students 16–17 years* All American Indian	Aims: to cultural adapt a substance use intervention by exploring substance use issues in American Indian adolescents  Photovoice questions: What/who in your environment inspires you to live drug- and alcohol-free? What in your environment challenges you to live drug- and alcohol-free? What makes you your own individual?	Participants received three digital cameras for each question prompt  Photos were discussed in individual interviews	None reported
179. Stanton & Sutton (2012) USA	14–18 years*	Aims: to explore adolescents' relationship with food  Photovoice questions: Take photos demonstrating your relationship with food.	Participants selected the 5 images they found most powerful to discuss in a group using the SHOWeD method	Presentation at a conference Reports to stakeholders
180. Strack et al. (2004) USA	14 participants (F-7, M-7) 11–17 years 7- Black, 4 -White, 1- Hispanic, 2- Mixed race Living in a low-income neighbourhood	Aims: to adapt photovoice for use in youth populations and to explore youth identities  Photovoice questions: take pictures describing your lives and identifying who you are	Point and shoot analogue cameras were used, participants were given 3 rolls of film each.  The photovoice project was conducted in 12 weeks, involving 20 sessions lasting 2 hours each  Photos were discussed in a group using the SHOWeD method	Exhibitions

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
181. Streng et al., (2004) USA	10 participants (F-2, M-6) 14–18 years* All Latino	Aims: identify issues that are affected, both positively and negatively, by their immigration experiences; and examine these issues with local health and human service providers to determine a plan of action. Photovoice questions: What is it like to be a Latino adolescent living in your town What are some solutions to these issues Take photos of social activities and celebrations; What is it like to be a Latino adolescent going to high school in your town?	The photovoice study was conducted over one year Photos were discussed in a group using the SHOWeD method	Photo exhibit Community forum
182. Tanjasiri et al., (2011) USA	32 participants (F-15, M-17) 13–18 years 8- Asian 16 - Southeast Asian, 6- Pacific islander, 2- Other	Aims: to identify and understand environmental characteristics associated with tobacco use in four AAPI communities Photovoice questions: photograph different environmental influences on tobacco use.	Digital cameras were used The photovoice project was conducted in ~2 months Participants had 1 hour to take photos Photos discussed in a group using the SHOWeD method	Findings presented at a meeting of stakeholders
183. Thomas & Irwin (2011), Thomas (2013) Canada	4 participants (F-2, M-2) 15–17 years	Aims: We examined the facilitators of and barriers to participants' application of cooking skills Photovoice questions: take photos of things that inspire or deter you from applying the cooking skills you have learnt	Disposable cameras were used Photos were discussed in a group	Exhibit Plans to present the results with stakeholder

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
184. Tickle et al., (2019) UK	9 participants 10–17 years	Aims: to explore the ways in which young people conceptualized crime, policing, safety and security in two coastal resorts Photovoice questions: take photographs of places of significance, including a place where you like to go, or where you feel safe.	Disposable cameras were used The photovoice project was conducted in 6 months Photos were discussed in either individual interviews or a group discussion	Report
185. Tomita (2015) Romania	12 participants 16–18 years	Aims: to explore and promote resilience among young offenders	The photovoice project was conducted over 5 days Participants discussed 3 photos each in groups	Exhibition
186. Trott (2019, 2020), Trott & Weinberg (2020), Trott et al., (2020) USA	55 participants (F-29, M-26) 10–12 years 34 - low income 31- White, 14 - Hispanic/Latinx, 8- Mixed race, 2 - Asian/Pacific islander	Aims: to explore how ten- to twelve-year-olds experienced and made sense of their growing climate change awareness through an after-school program that facilitated individual and collaborative climate change action. Photovoice questions: take photos of images conveying your views and feelings on climate change topics	Digital cameras were used The project was conducted over 15 weeks, including weekly meetings (lasting 1 hour) Photos were discussed in groups	Presentation to stakeholders Tree planting campaign, community garden and summer garden club Exhibition Website
187. Trubswasser et al., (2020) Ethiopia	26 participants (F-17, M-9) 14–19 years	Aims: to assess factors influencing dietary behaviours of adolescents in Addis Ababa, Ethiopia. Photovoice questions: Challenges in your environment to healthy eating Opportunities in your environment to eat healthy	Digital cameras were used in 1 study location as phones were prohibited The photovoice project was conducted over 4 weeks meeting weekly Participants had 2 weeks to take photos Participants selected 3–6 photos per photovoice question to discuss in individual interviews, and 1 photo to discuss in groups. The SHOWeD method was used	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
188. Umurungi et al., (2008) Rwanda	16 participants (F-16) 11–14 years All disadvantaged, living on the streets	Aims: to deepen our understandings of ways of addressing the educational, health and the social needs of girls living on the streets and the perspectives of these girls on issues of safety and security, particularly in the context of risk of HIV and AIDS  Photovoice questions: feeling safe and not safe in terms of contracting HIV, particularly in relation to the possibilities of gender violence in their environment	Disposable cameras were used The photovoice project was conducted over 2 days Participants had 45 minutes to take photos Participants selected their 2 best photos to write about	None reported
189. Uscanga et al., (2019) Nicaragua	20 participants (F-15, M-5) 15–17 years	Aims: to explore the entrepreneurial opportunities involving agribusiness and ecotourism that Nicaraguan students recognized in their communities  Aims: take 5 to 10 photos of resources in your community that you consider important for implementing achievable business ideas.	Participants used wither disposable cameras or their own phones Participants had 2 days to take photos Participants provided written statements for their photos	Meeting to disseminate results with stakeholders
190. Valdez et al., (2019) USA	23 participants (F-12, M-11) 14–18 years 20 participants – Hispanic	Aims: to examine the perceived factors influencing adolescent substance use in their border community.  Photovoice questions: General risk and protective factors Drug trafficking and poverty/ unemployment Cross border access to substances Border stressors and Mexican culture	Participants shared digital cameras The photovoice project was conducted over 12 weeks, involving weekly sessions lasting 2-hours Participants had 1 week to take photos Participants selected 3 photos per prompt, and completed free-writes using SHOWeD. There was also a group discussion of photos	Presentation at conference Exhibit Development of local and state policy recommendations

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
191. van der Wal et al., (2017) Australia	10 participants (F-5, M-5) 12–19 years 6- Aboriginal, 4- Australian All from disadvantaged neighbourhoods	Aims: To explore young people's perspectives on the strengths, challenges and needs of their local community in a disadvantaged area of Sydney, Australia. Photovoice questions: take photos of anything that represents the strengths and challenges of your community.	Disposable cameras were used (with 27 exposures) Participants had one week to take photos Photos were discussed in individual interviews	Booklet
192. Van et al (2014) USA	7 participants (F-6, M-1) 13–19 years 2- African American, 2- Hispanic, 2-African American/Hispanic, 1- Asian All from low-income families	Aims: to understand their perceptions about barriers, strategies, and influences related to healthy dietary and physical activity. Photovoice questions: Take at least five photos of things that make it hard or easy for you to eat healthy Take at least five photos of things that make it hard or easy for me to be physically active.	Most participants used their own smartphones, but digital cameras were also made available if needed The photovoice project was conducted over 3 sessions Photos were discussed in individual interviews	Plan to disseminate findings to stakeholders
193. Velez-Grau (2019) USA	4 participants (F- 3, M-1) 15–17 years 3- Hispanic, 1- European Living in disadvantaged neighbourhood	Aims: to explore adolescents' experiences of receiving mental health services Photovoice questions: What does it mean to receive mental health services?	Disposable cameras were used The photovoice study was conducted over 3 months, involving 3 meetings Participants had 2 weeks to take photos Participants selected 5 photos each to discuss in a group using the SHOWeD method	Photos presented to stakeholders
194. Walia & Leipert (2012) Canada	9 participants (F-4, M-5) 13–18 years Mostly from well-off families	Aims: to identify the perceived facilitators and barriers to physical activity in rural youth	Participants had 2 weeks to take photos The photos were discussed in individual interviews	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
195. Wallace & McLauchlan (2012) Moldova	13 participants (F-11, M-2) 10–17 years All Caucasian	Aims: to explore perceptions of health-related issues among youth residing in Chişinău, Moldova  Photovoice questions: Take between 10 and 20 photos representing health related issues in your community	Participants used their own digital cameras or phones to take photos  The photovoice project was conducted over one month  Participants had 7 days to take photos  Collectively participants chose 2–4 photos per theme to discuss as a group. The SHOWeD method was used to discuss photos	None reported
196. Walsh et al., (2008, 2014) Canada	11 participants (F-2, M-9) 13–17 years 10- Caucasian, 1- Cree/ Caucasian	Aims: to engage with youth in one community to support their active participation in community change  Photovoice questions: take pictures of the positive and negative attributes of the social-built environments in your community.	Disposable cameras were used  Photos were discussed in a group using the PHOTO method	Photo exhibit Community development project to raise awareness of rubbish and graffiti
197. Ward et al., (2015) New Zealand	18 participants (F-9, M-9) 16–18 years	Aims: to investigate how older teenagers perceive the impact of transport on their well-being.  Photovoice questions: take photos about what transport modes you use, barriers you face, and how your well-being relates to transport choices	Digital cameras were used  The photovoice project was conducted over ~4 months  Participants selected a few favourite photos from each assignment to discuss in group sessions. The SHOWeD method was used to discuss photos	None reported
198. Watson and Douglas (2012) UK	9 participants (F-2, M-7) 12–19 year* 7- Scottish, 1- Latvian, 1- Lithuanian Living in deprived neighbourhoods	Aims: how young people living in socially and economically disadvantaged circumstances viewed and experienced their local neighbourhood and its impact on their mental well-being  Photovoice questions: Take photographs of things in your neighbourhood that make you feel happy and healthy, and those that make you unhappy or unhealthy	Disposable cameras (with 39 exposures were used)  10 pictures were selected to be discussed in individual interviews using the SHOWeD method	Low-and-high tech remedies identified by participants to address issues

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**Table 2.** (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
199. Watts et al., (2015a, b) Canada	22 participants (F-17, M-5) 12- White, 10- Non-white Mostly from higher income families	Aims: To explore perceived factors that impede or facilitate healthful eating within the home environment among overweight/obese adolescents Photovoice questions: take pictures of things that make it easier or harder to make healthy food choices at school and in your community	Digital cameras were used Participants had at least 1 week to a max of 12 weeks to take photos Participants selected 5 photos that they liked best of were most important to discuss in interviews	None reported
200. Weissman (2018) USA	21 participants 14–18 years Low income neighbourhoods	Aims: to explore how poor and working-class youth of colour perceive food system inequalities	Digital cameras were used The photovoice project was conducted over 6 weeks	None reported
201. Whitney (2006) USA	13 participants (F-8, M-5) 15–18 years*	Aims: to give students with disabilities a voice to describe their educational experience	Disposable cameras were used Photos were discussed in individual interviews, and group exercises	Three photo exhibits
202. Whitfield & Meyer (2005) USA	14–15 years	Aims: to explore what ninth- and tenth-grade students think about science outside of school? Photovoice questions: Take pictures related to science in and around the school and inside and outside your home. Take 2 photos that can be of anything that makes you think of science	Participants shared disposable cameras Participants had one day to take photos Participants selected 3 photos to discuss in groups	None reported
203. Williams & Metz (2014) USA	5 participants (M-5) 15–17 years	Aims: to explore the benefits of at-risk youth training animals Photovoice questions: What does training this animal mean to you? How is your life different now that you are training or have trained animals that need you?	Digital cameras were used Participants had one month to take photos Photos were discussed in individual interviews and focus groups	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
204. Winsor and Skovdal (2011) Kenya	15 participants (F-7, M-8) 12–17 years All experiencing high poverty	Aims: To shed light on the ways in which goat ownership affects children's psychosocial well-being Photovoice questions: What is your life like with your goat? What is the relationship with your goat like? What do you like about having your own goat? What problems do you face with your goat?	Disposable cameras were used Participants had one week to take photos Participants selected their favourite 4 photos to discuss in a group using SHOWeD	None reported
205. Wood (2012) New Zealand	122 participants 13–18 years	Aims: to explore how young people describe how they defined and 'took action', in the context of their schooling, and also their everyday lived experiences. Photovoice questions: photograph what is special or important about your place as well as what you want to change in your community.	Participants either took photos overnight or during lessons Photos were discussed in a group	None reported
206. Wood (2016) New Zealand	61 participants 13–15 years	Aims: to create digital stories which celebrated the expertise and insights of these young people that could be shared with the town		None reported
207. Woodgate & Kreklewitz (2012), Woodgate et al., (2015), Woodgate & Busolo (2015, 2017) Canada	75 participants (F-55, M-20) 11–19 years 47- European descent, 8-Canadian aboriginal, 20 - other/ did not report	Aims: To explore youth perspectives of cancer and cancer prevention including cancer risk Photovoice questions: take pictures of people (with permission), places, objects or events that make you think of cancer and cancer prevention	Disposable cameras were used Participants had 3–5 weeks to take photos Photos were discussed in individual interviews and groups. All photos were discussed in the interviews using the SHOWeD method	None reported

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
208. Woodgate & Leach (2010), Woodgate & Skarlato (2015) Canada	71 participants (F-42, M-27) 12–19 years 27- Canadian aboriginal, 17- other/ did not report Majority of youth from low income neighbourhoods	Aims: how youth define health, what it means to youth to be healthy, and what youth think and feel about how their own life situations influence their ability to affect their health. Photovoice questions: take pictures of different objects, people (with permission), and events in your life depicting your thoughts and feelings of what health means to you, as well as what things influence your health	Disposable cameras were used Participants had 3 weeks to take photos Photos were discussed in individual interviews	Two videos
209. Woods-Jaeger et al., (2013) USA	12 participants (F-7, M-5) 13–17 years 10 - African American, 2- Mixed race	Aims: Examine African American perceptions of social and community factors that influence HIV vulnerability to identify social intervention targets for HIV prevention efforts Photovoice questions: Group 1: Why is HIV/AIDS an epidemic in the Black community? How do the people around us influence our risk behavior? How can our community support people in making healthy decisions about sex? and What challenges does the Black community face in addressing HIV/AIDS? Group 2: Why do people not have safe sex? How do role models affect the community? What are positive and negative influences in the community? Discrimination in our community.	4 disposable cameras used (1 for each assignment) The photovoice project was conducted over 2 months, meeting 5 times (1 introductory session, and 4 discussion rounds). Each discussion lasted 90 minutes Photos were discussed in a group using the SHOWeD method	Developed action plans to increase neighbourhood based opportunities and resources for adolescents, raising awareness of racial stereotypes, and combating stereotypes, advocating for community organizations to show they care about African American adolescents

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Table 2. (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
210. Yi-Frazier et al., (2015) USA	20 adolescents (F-13, M-7) 14–18 years Majority non-Hispanic white	Aims: to explore combining Photovoice with social media for adolescents with diabetes  Photovoice questions: take photos that represent your diabetes	Participants used their own phones to take photos  Participants had 3 weeks to take photos  Photos were discussed using the SHOWeD method in both individual interviews and groups	None reported
211; Zenkov & Harman (2009), Zenkov et al., (2011, 2013, 2014) USA	11–18 years* Participants living in poverty Multiple ethnicities	Aims: to explore the perspectives of young adults' and their relationships to school  Photovoice questions: What are the purposes of school? What helps you to succeed in school? What gets in the way of your school success?	Digital or analogue cameras were used  The photovoice project was conducted over 4 months to one year  Photos were discussed in small groups or 1:1 interviews	Catalogue of images Exhibition
212. Zietz et al., (2018) Malawi	6 participants (F-3, M-3) 14–18 years Poor rural households	Aims: what is the role of productive activities in the lives and development of adolescents in rural Malawi?  Photovoice questions: take ten photographs of the work and the chores carried out by children and adolescents in the community	The photovoice project was conducted in 2 sessions, over 3 days  Participants had one day to take photographs  Each participant briefly discussed 6 photos, and then collectively as a group they chose two photos to discuss using the SHOWeD method	None reported
213. Zilli et al., (2020) UK	4 participants (M-4) 11–15 years All white	Aims: to explore the practices that enable autistic pupils to participate in a school context  Photovoice questions: photograph places or people where toy feel listened to	Digital cameras were used  Participants had the time during 1 lesson to take photos	None reported
214. Zuch et al., (2013) South Africa	16 participants (F-8, M-8) 12–15 years Economically disadvantaged	Aims: to identify issues relating to school safety, and to measure the impact of the Photovoice project.	The Photovoice project was completed over 4 weeks involving eight 1-hr sessions after school, twice a week  Participants had ~ 1 day to take photos  Photos were discussed in a group	Community forum and presentation

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**Table 2.** (Continued).

Author and country	Participant characteristics	Study topic	Study characteristics	Outputs
215. Zway & Boonzaier (2015) South Africa	14 participants (F-14) 13–17 years All black Xhosa speaking	Aims: What is it like being a young black woman who identifies as lesbian and bisexual? Photovoice questions: think about a story you would like to tell about your life and how you would show this through photography	Digital cameras were used The Photovoice project was completed over 5 months, meeting 10 times Participants had one week to take photos Photos were discussed in interviews	Exhibition

\*assessed by grade at school.

\*\*confirmed by author.

## Conclusion

Our systematic review has scoped the available evidence on the Photovoice studies exploring mental health among adolescents. Our review highlights the potential of Photovoice as a method that is in its infancy but can generate rich information about the complex, occasionally contradictory and often interconnecting nature of adolescent mental health. Furthermore, our review suggests that Photovoice is a non-reductive and inclusive method that can flexibly examine the complexity of adolescents' experiences of mental health across a variety of settings and populations. The strength of Photovoice within mental health research involving adolescents lies in its strength to represent and empower participants, enabling concurrent opposing views to be presented alongside each other.

However, the flexibility Photovoice places on flexibility may have come with a risk of non-standardization. Our review illustrates variable quality in the reporting of photovoice studies examining mental health among adolescents. To advance the method, there is a need to standardize guidance relating to the conduct and reporting of Photovoice studies. This is important to ensure that barriers and limitations to adolescents' participation in such studies can be identified and addressed. By addressing the ambiguity seen within Photovoice research exploring mental health among adolescents, this guidance would promote quality and instil more confidence in the reliability of findings.

Our review captures a point in time where there are relatively few Photovoice studies among adolescents and serves as a guiding example for future mental health research. To refine and establish best practices, more published Photovoice research examining mental health among adolescents is needed. Future Photovoice studies could consider conducting Photovoice studies online. This approach has previously been employed among adolescents (Macias et al., 2023) and can recruit over 100 participants (Subasi et al., 2023 and Doyumğaç et al., 2021), thereby addressing the limitations associated with smaller sample sizes seen in Photovoice research

Overall, our review indicates that Photovoice is a compelling and promising method for generating insights into the social determinants of adolescent mental health. Its potential to challenge the way in which researchers engage with participants and shape society's understanding of adolescent mental health is obvious. By embracing the opportunities offered by Photovoice, researchers have the opportunity to challenge the status quo and establish more inclusive and relevant research practices that amplify the perspectives of those involved in research.

## Acknowledgments

We acknowledge and thank the role our colleagues from the Unit for Social and Community Psychiatry played in the development of this manuscript.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Funding

The first author (MS) was supported by an annual stipend from The London Interdisciplinary Social Science Doctoral Training Partnership to conduct her doctoral studies.

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