



Participatory Research Methods and Tools for Promoting Children's Psychological Well-Being: A Systematic Review

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Abstract

With the increasing prevalence of mental health issues among young populations, participatory methods have gained attention for their potential to engage children in the design and implementation of interventions aimed at enhancing their psychological well-being. Despite the growing body of research involving children and adolescents, there remains a significant gap in the literature regarding the systematic use of participatory methods specifically tailored to this demographic. This systematic review addresses the research gap in tailored participatory approaches for improving psychological well-being among children and adolescents amid rising youth mental health challenges. Analyzing 14 empirical studies (1990–2024) in English from Web of Science, Ebscohost, Scope, PsycINFO, three key findings emerge. First, diverse participatory tools—such as creative workshops, art-based activities, and digital platforms—effectively engage youth as active co-designers of interventions, enhancing their agency and ownership. Second, psychological well-being is primarily conceptualized through positive emotional indicators (e.g., happiness, belonging), with limited integration of cognitive, behavioral, or social functioning dimensions. Third, participatory methods increasingly serve dual roles: as research frameworks capturing contextualized needs and as empowerment-driven interventions fostering resilience and self-efficacy. While small sample sizes constrain generalizability, the study underscores participatory methods' dual value—methodologically, they reveal nuanced well-being dynamics. Practically, they create youth-centered pathways for psychological well-being improvement. The findings advocate for standardized metrics to evaluate participatory methods' effectiveness and emphasize cross-cultural adaptations to enhance applicability. This synthesis provides actionable insights for developing age-specific interventions, urging policymakers and practitioners to prioritize participatory paradigms that bridge research and real-world psychological well-being outcomes.

Keywords Children and adolescents · Education · Participatory design · Psychological well-being · Quality of life

Introduction

With the rise of mental health issues in nowadays society, there are participatory research stressing on inviting people to engage in for finding possible solutions. Participatory approaches are considered to be beneficial to design for wellbeing (Warwick et al., 2018). Despite an increase in studies involving children and adolescents as participants, participatory research specifically addressing their psychological well-being remains scarce, whereas such approaches are more commonly applied to adult populations (Becker et al., 2014; Sani et al., 2021). Besides, there is limited review studies in this area that provide an overview about the methodology of how they engage participants in the relevant design research. Aiming to address this research gap, this study provides a systematic review of the empirical studies that have adopted participatory research methods for researching into possible solutions to intervene the psychological well-being of children and adolescents.

Conceptualisation

Psychological Well-Being

In the academic literature, there is currently no clear and consistent definition of “psychological wellbeing”. The construction of well-being is complex and multifaceted, making it difficult for researchers to define and measure it (Bennett-Levy et al., 2021; Pollard & Lee, 2003). According to Forgeard and colleagues (2011, p. 80), this is the reason for the vague and overly broad definition of well-being in the study. Some scholars adopt the hedonistic perspective and define it as a balanced state of positive emotions and negative emotions (Bradburn, 1969). Other scholars advocate the happiness framework, emphasizing the ability of individuals to realize their potential, operate effectively and contribute to the community (Ryff, 1989; Waterman, 1993; Tiberius, 2006; WHO, 2004). This duality leads to the mixed use of terms—often interchanged with “quality of life” and other terms, without a common and detailed understanding of its meaning, and lacking cross-cultural adaptability (Warwick et al., 2018). For example, in the context of Aboriginal Australia, the traditional concept of mental health has been criticized as cultural stripping for ignoring cultural connections (land/ancestry/community) (Bennett et al., 2021). It is necessary to give way to a recognized explanation: “Social and Emotional Wellbeing (SEWB) is a multidimensional concept of health that includes mental health, but which also encompasses domains of health and wellbeing such as connection to land or ‘country’, culture, spirituality, ancestry, family and community” (Gee et al., 2014, p.55). The ambiguity of definitions is further exacerbated by the measurement dilemma: Clinical studies mostly focus on disease indicators (such as depression/PTSD symptoms) (Cresswell et al., 2022), while design intervention studies are limited by the assessment of well-being at the micro or meso level (Vink et al., 2016). More scholars have devoted themselves to identifying the dimensions of well-being (Petersmans & Cain, 2020), which is consistent with the results of the systematic

review of the effects of blue space interventions on health and well-being by Britton et al. (2020).

This study adopts an integrated operational definition, defining psychological well-being as a dynamic balance state between an individual's resource pool (including emotional, cultural, and social resources) and internal and external challenges (Dodge et al., 2012, p. 226), and its positive performance needs to simultaneously satisfy the hedonic basis (Bradburn, 1969) and the extension of happiness (Ryff, 1989) and cultural rooting (Bennett, 2021). Given that our aim for a comprehensive review of empirical research on the psychological well-being of children and adolescents, whether the purpose of participation is to generate positive emotions, and whether the participation process creates a sense of connection between people, the community and the wider environment, these are important criteria for our selection of literature. In addition, similar to Britton et al. (2020), we pay more attention to the definition of the dimensions of psychological well-being in the selected literature.

Participatory Research

One simple but far-reaching idea that helps researchers ensure their work remains relevant is engagement. The participatory approach (i.e., “user as partner”) was initially led by the Nordic people (Sanders & Stappers, 2008). It encourages users to participate and share their ideas and experiences to help researchers shorten the communication distance between research activities and real-world activities, and between researchers and subjects (Foth & Axup, 2006). Participatory research has created or adapted a number of research methods, of which participatory design (PD) and participatory action research (PAR) are the two that have been mainly discussed.

Participatory Design (PD) emphasizes the direct participation of users and other stakeholders in the design process. Its core concept lies in ensuring that the final design scheme meets the actual usage requirements (Schuler & Namioka, 1993, p. 3). This marks the transformation of the design paradigm from “designing for people” to “designing with people” and even “designing by people”. Within this framework, users are involved as “experience experts”, while the role of designers evolves as “toolmakers”, responsible for providing methods and tools (such as prototyping toolkits) that help user groups imagine, express, and collectively shape visions of future experiences (Sanders et al., 2010, p. 197). Given the uniqueness of each project, designers need to carefully select specific design methods, tools and techniques. The practical forms of PD are diverse, mainly including allowing users to participate in evaluative research for testing existing products or concept prototypes. In addition, generative research that inspires the design team through situational exploration in the early stage of design (Schuler & Namioka, 1993). The PD process usually involves participants with diverse backgrounds (such as different specialties, experiences, interests and roles) (Schuler & Namioka, 1993), and some participatory designs particularly focus on how non-designers can effectively express their design concepts to lay the foundation for subsequent professional development (Sanders et al., 2010). It is notable that the application of PD among children and adolescents did not gradually become popular until the late 1990s (Bekker et al., 2003; Druin,

2002). Broadly speaking, participatory design can cover any activities involving users in the design process, including conducting system testing or collecting feedback at the end (Walsh et al., 2013).

Participatory action research (PAR) is a research paradigm with the core goals of empowerment and social change, emphasizing that researchers and community members participate in knowledge production as equal partners (McIntyre, 2008, p.1, 3). Its essence is through a circular process of planning—action—observation—reflection (Kemmis, 2006; Kindon et al., 2007; Marcus, 1994; Smith, 1997), identify the systemic challenges faced by the community (such as social injustice and resource inequality) and promote structural changes (Kemmis et al., 2013). PAR is not a specific method at the micro level, but a macro methodological framework (McTaggart, 1997). Lay a critical foundation by constructing the environment in which knowledge production and change occur (Ponterotto, 2005), focusing on three core characteristics: Power redistribution (placing marginalized groups at the center to enhance their subjectivity), critical dialogue orientation (planning and deconstructing the power structure driven by the values of researchers and participants), and capacity co-construction (cultivating the community's ability to independently solve systemic problems) (Predota, 2009). This method has been widely applied in fields such as youth development (Ozer et al., 2010), and its interdisciplinary variants include community participatory research (CBPR) in the field of public health, the Freireian model in adult education, and youth-led participatory research (Ginwright et al., 2006; Minkler & Wallerstein, 2003; Schensul et al., 2004). The commonality lies in training non-professional members to become researchers and change agents through the cooperative-action iterative process (Israel et al., 2003), assisting marginalized groups in developing skills, deepening social and political cognition, and establishing mutual assistance networks under the premise of fair distribution of decision-making power (Zimmerman, 1995). Thus, it differs from the focus of Participatory Design (PD) on technical solutions, with the ultimate goal of systemic social change.

Under the concept of the principle of participation, the intention and purpose of the two are different. PD advocates multi-stakeholder collaboration and participation to produce workable designs that help improve the lives of users, and more to guide the development process and approach strategies (Agudelo-Hernandez & Belen Giraldo Alvarez, 2024). PAR works with stakeholders to build knowledge and guide change, with more emphasis on the long-term impact of the engagement process (Thomas et al., 2024). Although the intent and purpose of the two are different, it has been proposed that research combining the dual approaches of PD and PAR can benefit from the strengths of each framework. For example, Dangol et al. (2024) cultivates children's sociocultural understanding of artificial intelligence through participatory design. Nachman et al (2023) applies participatory action research to co-create knowledge about cycling. In addition, the co-design methods and tools employed by the institute for PD and PAR are similar (Larsson et al., 2018).

Our interest is not only in the impact of participatory design research or action research alone on the psychological well-being of children or adolescents, but also in the impact of participating in this act on them. Therefore, in this review, we emphasize empirical research and co-design methods for participatory research

(as long as it includes the behavior of participation) to inform and contribute to the development of children's and adolescents' psychological well-being.

Participatory Research and Psychological Well-Being of Children and Adolescents

Children and adolescents, as unique groups with independent cognitive patterns and cultural norms, their psychological well-being needs cannot be effectively captured through adult-centered research methods (Berman, 1977, p. 65; Druin et al., 1997, p. 464). Traditional task-oriented observation methods, such as user research in the working environment (Bjerknes et al., 1987, p. 32; Beyer & Holtzblatt, 1998, p. 42), have three fundamental limitations. Firstly, the interaction between children and adolescents and technology presents the characteristics of open-ended exploration, which conflicts with the preset task mode (Druin, 1996). Secondly, the power structure of “all-knowing adults—all-learning children” suppresses children's right to expression (Druin, 1996, 1999). Furthermore, the absence of age-adaptive methods makes the methods used by 13-year-old adolescents difficult to be adapted to 4-year-old children (Guha et al., 2004). Establishing an equal partnership between children and adolescents and researchers is an effective attempt to break through this cognitive bias (Druin & Solomon, 1996), which is also the theoretical origin of the participatory method.

The process of participatory research itself has significant psychological healing value. Artistic creation has been proven to enhance positive emotions and social functions (Keyes, 2002, p.210), and its universal healing mechanism can promote the well-being of all people (McNiff, 2004), and also contribute to the rehabilitation of those troubled by mental problems (Stickley et al., 2018). When extended to the field of design, co-design gives children decision-making control rights and directly confronts the psychological risk factor of “powerlessness” (Tseklevs, 2020). The social sense of belonging (Pera & Viglia, 2015) and the experience of being heard (Warwick et al., 2018) formed a social healing network. This dual value marks a paradigm breakthrough—when the participation in the design process itself becomes an intervention means (Vink et al., 2016), participatory research has both methodological and therapeutic attributes. However, most of the existing studies focus on the health benefits of design output (Camacho et al., 2011; Zanetti & Taylor, 2016), ignoring the direct impact of the participation process on children's and adolescents' psychological well-being (Leckey, 2011), this empirical gap precisely needs to be filled by the participatory method.

Method and Tool

There is no fixed definition of method and tool agreed on in previous studies. Freire et al. (2022) mixed the terms “method”, “approach” and “activities” in their review. Although the author's intention is to use method and approach to distinguish the concepts between research methods and related activities, the actual meaning of the two terms is similar, so it is easy to confuse the related concepts.

To ensure the identified literature and subsequent discussions truly align with the research aim, following the definitions of method and tool provided by Yin et al. (2024). In this study, we regard “methods” as the researcher’s specific definition of participatory research, “activities” as the survey activities (involving participants) conducted to support the research method, and “tools” as the auxiliary means used in the survey activities. For example, as mentioned above, participatory design and action research are considered research methods of participatory research. In addition, we view focus group and photography study as research activities, however, the description card (Akkan et al., 2019) and drawing (Clarke et al., 2015) that assist research activities are regarded as tools.

Existing Reviews

Whitesell et al. (2015, p. 498) demonstrated the feasibility of community-based participatory research methods in examining the Child Well-being Survey (SWYC). In addition, participatory design can also play a role as an intervention in community mental health settings and in optimizing daily life (Williamson & Ennals, 2020). Rodriguez Espinosa and Verney (2021) not only affirmed the potential of participatory research in improving the health and wellbeing of multicultural communities, but also proposed that the research on participatory research in psychology is not sufficient and should be more narrowly focused on specific fields.

However, the Sollis et al. (2022) review is similar to most reviews on participatory research and psychological well-being in that it takes a more holistic perspective and does not subdivide the population. The review by Orlowski et al. (2015) also focuses only on the psychological well-being of youth. As pointed out by Larsson et al. (2018, p. 7, 11), few studies have applied participatory research methods to the psychological well-being of children and adolescents, which indicates that there are some challenges, such as age influencing the degree of participation and the understanding and expression of psychological well-being. In addition, although Freire et al. (2022) mentioned methods and tools to help children and adolescents participate, there was no clear description of how to measure the process and effect of participation.

The review of participatory approaches in children and adolescents by Freire et al. (2022) clearly sets out the methods, the stages of participants’ involvement, the findings, and the challenges involved. However, they are primarily concerned with the impact of participatory methods in terms of health resources, whereas our interest is in psychological well-being. In addition, the review by Larsson et al. (2018) addresses well-being as a component of health and does not emphasize its importance. In contrast, Moreira et al. (2021), Hoosen et al. (2024) and Mendes de Oliveira et al. (2022) are comprehensive reviews of psychological well-being that do not focus on the impact of participatory methods. In this study, in conjunction with the previous definition of psychological well-being, we focus on empirical research on the application of participatory methods to psychological well-being in children and adolescents.

There are three gaps in the current review of this area of research. First, there are few review articles that are closely related to the two topics of participatory research and psychological well-being development, and none of them consider both. Second, one of the review studies was conducted eight years ago. Therefore, a more recent review study is needed to summarize the intersection of these two topics. Third, due to insufficient attention to children and adolescents, the impact of age on participatory research and psychological well-being is equally noteworthy. Therefore, it is necessary to review the literature and explore the practice of empirical research with children and adolescents as research participants to help improve the application and design of participatory methods to psychological well-being.

Research Aim and Questions

In view of this, understanding the current situation for formulating and implementing participatory research interventions in the future and determine the possibility research is very important. Therefore, the aim of this study was to conduct a systematic review of the literature on participatory research that is effective in improving the psychological well-being of children and adolescents. The following research questions guided the study:

RQ1: What participatory research methods have been adopted to enhance children's and adolescents' well-being?

RQ2: What is the level of involvement of children?

RQ3: What approaches have been taken to measure the effectiveness of participatory research methods in promoting children's and adolescents' well-being?

Method

Type of Study: Systematic Review

This study adopts a systematic review approach to systematically search, evaluate and synthesize research evidence (Grant & Booth, 2009). Systematic review was chosen for this study because it generates various types of knowledge for different evaluation users (Gough et al., 2019). This review is based on the PRISMA (Preferred Reporting Project for Systematic Review and Meta-Analysis) guidelines, attempting to realise better methodological rigor (Page et al., 2021). At the same time, to ensure value to users, it requires the evaluation process to be transparent, complete, and accurate (Moher, 2018).

Databases Searches and Search Strategy

In October 2024, a systematic search of the English-language peer reviewed literature was conducted through the following databases: Web of Science, Ebscohost, Scope, PsycINFO. This move takes into account the broader coverage of English

literature and to ensure methodological consistency in the execution of search strategies and data interpretation. Boolean operators are used in the search (see Table 1 for the search terms). The abstracts were published between 1990 and 2024. The start date represents the holding of the first conference on participatory design, which is beginning to receive increasing attention in different fields (Schuler & Namioka, 1993).

In addition to the extensive search in the above database, nine journals, which typically publish research on participatory research and child well-being, were manually searched from the database to find potentially relevant articles missed in the database search. These nine journals include: *Child Indicators Research*, *Social Indicators Research*, *Journal of Psychoeducational Assessment*, *Journal of Youth and Adolescence*, *Journal of Happiness Studies*, *Codesign*, *Design Issues*, *Participatory Design* and *Design Studies*. As a final step in finding relevant research, we performed a pre- and post-citation search on publications found from the database and manually searched for full text assessments.

Eligibility Criteria

All citations identified in the search are uploaded to EndNote 21 and duplicates removed. Two reviewers based on the inclusion and exclusion criteria (Table 2) then screen the title and abstract of the report separately, and articles that clearly do not meet the criteria are not considered further. Potentially eligible reports will be retained for full review. The results are combined after two reviewers independently screen the reports, and a third reviewer reviews the disputed reports.

Quality Assessment

The criteria for assessing the quality of evidence come from CASP. The Critical Evaluation Skills Programme (CASP) tool is endorsed by the Cochrane Qualitative and Implementation Methods Group and is the most commonly used tool for comprehensive quality assessment of health-related qualitative evidence (Long et al., 2020).

A list was developed based on the ten CASP questions (Table 3). The list was scored “yes”, “somewhat/partly”, “can’t tell” and “not report”. The “somewhat” as a rating option is intended to provide more detailed results (Long et al., 2020), especially because a fair number of studies provide some information, but not enough to get to the point of “yes”. Table 3 lists the details of the criteria on which each score is based. The total is calculated by assigning 2 points to “yes” answers, 1 point to “somewhat” answers, 0.5 points to “can’t tell” answers, and 0 points to “not report” answers. Two examiners used the checklist to score each study independently.

Data Extraction

Two reviewers separately extracted the data, focusing on the summary, methods, and results sections, taking into account established inclusion criteria. One reviewer then

Table 1 Study search terms

Participatory Research	Children	Psychological Well-being
(Participatory Design) OR (Participatory Method) OR (Participatory Approach) OR (co-product*) OR (co-design*) OR (co-creat*) OR (User-centred design)	Pupil OR adol* OR youth OR child*	(Well-being) OR (well-being) OR (subjective well-being) OR (psychological well-being) OR (Mental well-being) OR (Social well-being) OR (wellness) OR (mental health) OR (happiness) OR (life satisfaction) OR (satisfaction with life) OR (good life) OR (positive experience)

Table 2 Study eligibility criteria

Inclusion criteria	Exclusion criteria
Studies which included children and adolescents aged 3–18 years	Studies for other age groups
Provided a description of the participatory method employed	No description provided of the participatory method
The process or outcome of participatory research includes at least one concept of the child's psychological well-being	Is the participatory research of children, but not with the including at least one linked to the concept of psychological well-being
Published between 1990 and 2024	Research published outside the stated publication period
English language publication	Publication in languages other than English
Empirical study	Non-empirical study

merges the data and negotiates with a third reviewer when disagreements arise. The data extracted included: author, year of publication, country, setting, participant age and sample size, theory of psychological well-being, definition and methodology of participatory research, assessment of participatory research goals, participation level of participants, and other findings relevant to the purpose of the review. A pilot of the data extraction table was completed to ensure consistency within and between reviewers in terms of the elements to be extracted.

Synthesis

We use critical reflection and narrative methods (Hickson, 2016) to integrate the main findings of the study. This comprehensive technique has been shown to be effective in narrative reviews of the literature (Culley et al., 2013) and has previously been used in participatory design studies for children and adolescents (Freire et al., 2022). Meta-analysis was not performed because the included studies were not homogeneous enough. The consideration of the individual findings in the comprehensive analysis was guided by the CASP methodology quality screening results.

Result

Identification and Selection of Studies

The PRISMA flowchart in Fig. 1 illustrates the selection process for inclusion studies. A total of 9792 records were found (Scopus: 2343, Web of science: 3365, PsycINFO: 1483, Ebscohost: 2601). After screening for duplicates, 5,382 studies were identified for screening. Browsing through titles and abstracts resulted in 5,233 articles being screened, leaving 152 articles to be reviewed in full. After reading the full text of 152 articles, the other 140 articles were excluded for the following reasons: Reason 1- Age > 18 years (n = 60); Reason 2- No description

Table 3 Checklist for CASP of report quality

CASP question	Notes on Item
1. Was there a clear statement of the aims of the research?	Y or N
2. Is a participatory methodology appropriate?	Y: The method, place of implementation and number of participants of participatory design are explained; S: Some of these factors have been explained, but not adequately; C: Difficult to judge; N: not reported
3. Was the research design appropriate to address the aims of the research?	Y: The reason and rationality of using participatory design are explained; S: Some of these factors have been explained, but not adequately; C: Difficult to judge; N: not reported
4. Are the study's theoretical underpinnings clear, consistent and conceptually coherent?	Y: The research paradigm is consistent with the method, methodology and description; S: Partial agreement; C: Difficult to judge; N: not reported
5. Was the recruitment strategy appropriate to the aims of the research?	Y: The recruitment process for participants is explained; S: Described but not in detail; C: Difficult to judge; N: not reported
6. Was the data collected in a way that addressed the research issue?	Y: The participatory method is well set up, can solve the problem, and describes the method (for example, for the interview method, does it explain how to conduct the interview); S: Describe briefly but not in detail; C: Difficult to judge; N: not reported
7. Has the relationship between researcher and participants been adequately considered?	Y: Scrutinize the role of the researcher and ensure the level of participation of the participants; S: The participation of the participants was not high; C: Difficult to judge; N: not reported
8. Have ethical issues been taken into consideration?	Y: There is enough detailed information to explain the study to the participants and to obtain approval from the ethics committee; S: Describe briefly but not in detail; C: Difficult to judge; N: not reported
9. Was the data analysis sufficiently rigorous?	Y: In-depth description of the data analysis process (e.g., analysis method, process, data source, etc.); S: Describe briefly but not in detail; C: Difficult to judge; N: not reported
10. Is there a clear statement of findings?	Y: The survey results were clear and the results were related to the original research question; S: Research questions were not discussed; C: Difficult to judge; N: not reported

Y: Yes; S: Somewhat; C: Can't tell; N: Not report

of the participatory method used (n=25); Reason 3- No definition of mental health (n=45); Reason 4- Language of publication is not English (n=1); Reason 5- Not an empirical study (n=9). The included studies were published between 1990 and 2024. Therefore, together with the two studies screened by other methods, 14 studies were included in the review.

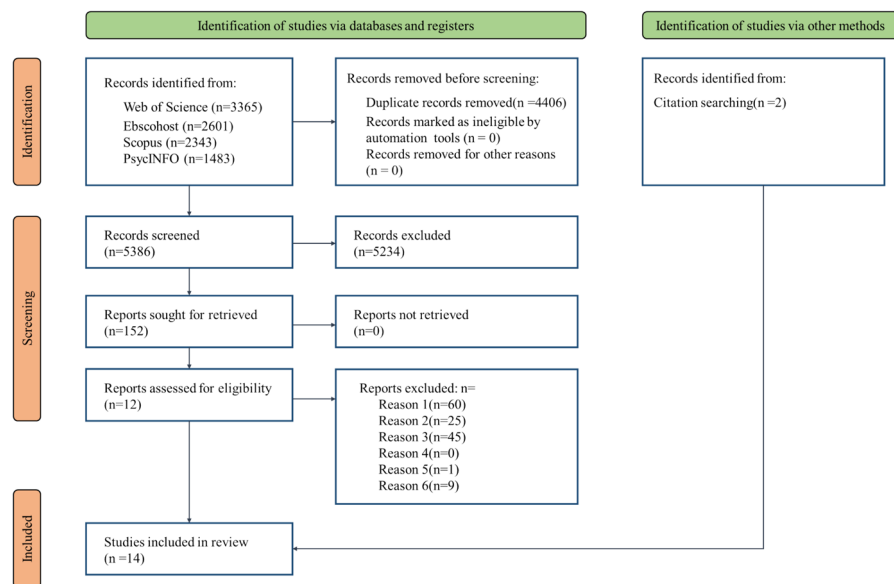


Fig. 1 PRISMA-based flowchart

Description of Included Study

Table 4 summarizes the characteristics of the 14 included studies. All studies were from the last ten years of the review period (2014–2024), with nearly three-quarters of the studies (71%, $n=10$) from the last three years (2022–2024). Among these studies, except for one unreported country and one given region, only one was from a country with a high level of human development, and the rest were from countries with very high levels of human development (the United States $n=3$, the Netherlands $n=2$, Ireland $n=2$, the United Kingdom $n=1$, Sweden $n=1$, Turkey $=2$). The authors describe the various participatory methods used, including co-creation ($n=3$), co-construction ($n=2$), and participatory methods ($n=2$). Other types of participation include: rights-based (Barron, 2022), co-design (Alves-Oliveira et al., 2022), Community-based Participatory Research (CBPR) (Baumann et al., 2024). Nearly 71% ($n=10$) of the studies used a qualitative study design, and the remaining four used a mixed method design.

More than half of the studies ($n=8$) had access to some or all of the school's collaborators, two worked with the community, and the rest were online ($n=1$) or referred only to the country ($n=3$). 42.8% of the studies ($n=6$) involved children under 12 years of age as co-investigators, and except for two studies that did not report specific ages, the other studies focused on children and adolescents over 12 years of age ($n=3$) and 3–18 years of age ($n=3$).

Table 4 Characteristics of the included studies

Author (year)	Country	Development status	Author identified participatory research methods	Author identified psychological well-being	Study design	Setting	Participants	Objectives
Agudelo-Hernández et al. (2024)	Colombia	HDI:0.788 High human development	Co-construct	Mental health	Qualitative	Indigenous communities	NR	Through participatory methods to identify the mental health and its influence
Ahlborg et al. (2024)	Sweden	HDI:0.959 Very high human development	Co-production	Supportive relationships and belonging	Mixed-method	The schools are situated in three different districts in southwest Sweden	NR	Through participatory methods investigation of adolescents' social capital and mental health and behavior for help
Akkan et al. (2019)	Turkey	HDI:0.853 Very high human development	Co-construct	Well-being	Qualitative	An old and medium sized district of Istanbul with a population of 320,000	112 (8–18 years)	Through participatory methods to understand pace-bound well-being building process of children
Alves-Oliveira et al.(2022)	NR	/	Co-design	Emotion	Mixed-method	Online	19 (15–18 years)	Through participatory methods to design and develop adolescent mental health therapy, and preliminary assessment results

Table 4 (continued)

Author (year)	Country	Development status	Author identified participatory research methods	Author identified psychological well-being	Study design	Setting	Participants	Objectives
Bajo Marcos et al. (2022)	Europe	/	Co-creation	Happiness and belonging	Qualitative	Refugee and migrant children in Europe	NR (6–18 years)	Through participatory methods to measure how migrant and refugee children well-being represented in the European education environment
Barron (2022)	Ireland	HDI:0.949 Very high human development	Rights-based approach	Belonging, identity, and well-being	Qualitative	A 'commuter belt' county in Ireland	411 (3–17 years)	Through participatory methods to understand exclusion impact on children and adolescents belonging
Baumann et al. (2024)	USA	HDI:0.938 Very high human development	Community-based Participatory Research (CBPR)	Mental health	Qualitative	High school students across Pittsburgh, Pennsylvania, USA	8 (15–19 years)	Through participatory methods to understand knowledge around mental health stressors and supports in the lives of youth

Table 4 (continued)

Author (year)	Country	Development status	Author identified participatory research methods	Author identified psychological well-being	Study design	Setting	Participants	Objectives
Clarke et al. (2015)	Ireland	HDI:0.949 Very high human development	Participatory methods	Emotion	Qualitative	44 disadvantaged schools in Ireland	161 (6–9 years)	Through participatory methods to assess the emotional health plan for the implementation and effects of the children
Fortuin et al. (2024)	Netherlands	HDI:0.955 Very high human development	Participatory methods	Well-being	Qualitative	Schools in urban and rural areas	82 (9–12 years)	Through participatory methods to understand children's ideas about their health and well-being
Gennari et al. (2017)	Netherlands	HDI:0.955 Very high human development	Co-creation	Emotion	Mixed-method	7 urban and rural primary schools with different socio-economic backgrounds	86 (10–11 years)	Through participatory methods to collect children's emotional data
Karan and Erdemir (2023)	Turkey	HDI:0.853 Very high human development	Child-centre	Well-being	Qualitative	2 schools in low-SES districts in Istanbul	10 (8–9 years)	Through participatory methods to understand children's subjective voices with respect to indicators of wellbeing at school

Table 4 (continued)

Author (year)	Country	Development status	Author identified participatory research methods	Author identified psychological well-being	Study design	Setting	Participants	Objectives
Marks et al. (2023)	UK	HDI:0.946 Very high human development	Co-creation	Hope	Qualitative	A state school local to the area in the South West of the UK	6 (16–18 years)	Through participatory methods to explore the ecological emotions of adolescents and solve the sense of isolation
Rocha et al. (2023)	USA	HDI:0.938 Very high human development	Participatory action research (PAR)	Well-being	Mixed-method	A unified school district in Gonzales	375 (6–12 grades)	Through participatory methods to understand the mental health of teenagers and academic challenge
Yarosh & Schueler, 2017	USA	HDI:0.938 Very high human development	Participatory Design	Gratitude, mindfulness, problem solving	Qualitative	Youth-development agency program in Chicago	12 (11–12 years)	Through participatory methods to understand children's interpretation of the concept of positive psychology

The data on Human Development Index (HDI) and the current state of national development are all from the latest United Nations Human Development Levels Report (United Nations Development Programme, 2025).

Quality Assessment

Table 5 presents the results of the CASP rating scale for each study. Although only three studies met all criteria (Baumann et al., 2024; Fortuin et al., 2024; Gennari et al., 2017), the overall quality of the reports was sufficient (range: 12.5–20, $M=16.60$, $SD=2.69$). All papers clearly describe the purpose of the study (Q1), use appropriate (Q2) research methods that are suitable for the purpose of the study (Q3), collect valid data (Q5) and have clear conclusions (Q9). In addition, all 14 studies discussed practical implications and values for future research (Q10). However, only five studies (35.71%) clarified the relationship between the researcher and the participant and the participant's role in the study (Q6). Seven studies (50%) detailed recruitment strategies for the sample (Q4) and rigorous analytical processing of the data (Q8), and six studies (42.8%) fully considered the ethical aspects of the study (Q7).

Characteristics of Participatory Methods

Table 6 summarizes the characteristics of the participatory methods employed in the included research. Three studies report on the frameworks used to guide the design of their participatory approaches. The GaCoCo framework maintains positive relationships among participants and enables cooperation between children and adults in a play-based manner (Gennari et al., 2017). Alves-Oliveira et al. (2022) used two frameworks of acceptance and commitment therapy (ACT) and Dialectical Behavior Therapy (DBT) to support their development of digital social robots for adolescents to improve their mental health through micro-interventions. Fortuin et al. (2024) were

Table 5 Quality assessment results

Author (year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Total
Agudelo-Hernández et al. (2024)	Y	Y	Y	N	Y	N	Y	C	Y	Y	14.5
Ahlborg et al. (2024)	Y	Y	Y	Y	Y	S	Y	S	Y	Y	18
Akkan et al. (2019)	Y	Y	Y	Y	Y	S	N	S	Y	Y	16
Alves-Oliveira et al. (2022)	Y	Y	Y	S	Y	S	S	S	Y	Y	16
Bajo Marcos et al. (2022)	Y	Y	Y	N	Y	N	N	S	Y	Y	13
Barron (2022)	Y	Y	Y	Y	Y	S	Y	Y	Y	Y	19
Baumann et al. (2024)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	20
Clarke et al. (2015)	Y	Y	Y	Y	Y	Y	S	Y	Y	Y	19
Fortuin et al. (2024)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	20
Gennari et al. (2017)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	20
Karan and Erdemir (2023)	Y	Y	Y	S	Y	C	S	S	Y	Y	15.5
Marks et al. (2023)	Y	Y	Y	C	Y	S	N	Y	Y	Y	15.5
Rocha et al. (2023)	Y	Y	Y	C	Y	C	N	S	Y	Y	14
Yarosh & Schueller, 2017	Y	Y	Y	S	Y	Y	N	Y	Y	Y	17

Y: 2 points; S: 1 point; C: 0.5 points; N: 0 point

Table 6 Characteristics of the participatory methods of the included studies

Author (year)	Framework	Stage(s) of development in which participatory methods were utilised	Degree of participation	Activities	Tools reported in study
Agudelo-Hernández et al. (2024)	NR	Identify	Level 4	Focus group	NR
Ahlborg et al. (2024)	NR	Identify, Create	Level 6	Focus group, World Café (WC) method, Workshop	Framing questions, Discussion, Notes, Sketches and symbols
Akkan et al. (2019)	NR	Identify	Level 6	In-depth interviews, Focus groups, Photography study	Discussion, Description card, Select cards to talk about, Take photoes, Mapping of the Neighbourhood
Alves-Oliveira et al.(2022)	Acceptance and commitment therapy (ACT), Dialectical behavioural therapy (DBT)	Create	Level 6	Co-design workshop, Evaluations of heuristics	Discussion, Using prototypes, Drawing,
Bajo Marcos et al. (2022)	NR	Identify	Level 6	Focus groups, World Café (WC) method	Discussion
Barron (2022)	NR	Identify	Level 6	Mapping techniques, 'Wheel exercise'	Drawing, Symbols, Discussion
Baumann et al. (2024)	NR	Identify, Define, Concept, Create,	Level 6	Collaborative Filmmaking, Brainstorm	Discussion, Writing
Clarke et al. (2015)	NR	Identify, Define	Level 6	Workshop, Brainstorm	Drawing, Writing, Feelings activity, Storytelling
Fortuin et al. (2024)	Concept mapping	Identify, Define, Position, Concept, Create, Use	Level 7	Brainstorm, Focus groups,	Using prototypes, Discussion
Gennari et al. (2017)	GAmitified CO-design with COoperative learning (GaCoCo)	Define, Create	Level 6	Design workshop	Role play & scenarios, Using prototypes, Discussion,
Karan and Erdemir (2023)	NR	Identify	Level 6	Interview	Visual cards, Discussion

Table 6 (continued)

Author (year)	Framework	Stage(s) of development in which participatory methods were utilised	Degree of participation	Activities	Tools reported in study
Marks et al. (2023)	NR	Create	Level 6	Workshop	Storytelling, Visual imagery and discussion
Rocha et al. (2023)	NR	Identify	Level 6	Interview	Discussion, Writing
Yarosh & Schueller, 2017	NR	Identify, Create	Level 6	workshop	Sketches, Prototype and videos

guided by a hybrid framework for researchers, concept mapping, working with children to explore their perceptions of health and well-being.

Fourteen studies were rated according to the participation ladder proposed by Hart et al. (2008, p. 24). All of which reached the Level of valid participation (level 4–8), and most of them ($n=12$) reached the level of “Adult-Initiated, shared decisions with children” (Level 6). Of these, one study only reached “Assigned but informed,” the initial level of effective participation. The other reached the Level of “Child-initiated and directed” (Level 7).

Psychological Well-Being Assessment of the Study

Since there is no clear definition of psychological well-being, this study focuses on how psychological well-being is defined and evaluated in different studies. The purpose of the majority of studies (78%, $n=11$) was to use participatory methods to identify concepts: to understand and probe children’s and adolescents’ subjective perceptions and understandings of factors related to psychological well-being. Only three studies assessed the impact of participatory research, that is, the process of participation or participatory research as a tool for assessing the impact of the program on an individual’s level of psychological well-being. Among them, Gennari et al. (2017, p. 50) used Graduated Achievement Emotions Set (GR-AES) in their study to collect emotional feedback at the end of each GaCoCo task to analyze the relationship between emotion, participation degree and product quality. Clarke et al. (2015) used a participatory approach to assess the implementation of an international emotional health program for primary school students. In addition, Bajo Marcos et al. (2022) helps children develop a set of social indicators to assess children’s well-being and sense of belonging through a participatory approach.

Five studies defined psychological well-being as well-being and three as belonging, including one study whose definition included both (Ahlborg et al., 2024). The remaining definitions include: emotion ($n=3$), mental health ($n=2$), hope ($n=1$), and others ($n=1$).

Development of Children and Adolescents

It is worth noting that there was no clear division of children’s age in the studies found in this review, and few studies explained the age selection of participants. At the same time, there was no appropriate explanation for the age range of participants selected. Some authors try to make comparisons between children of different ages by choosing a larger age span. However, it needs to be admitted that this has caused obstacles to the analysis of the impact of participatory design on children of different ages and the applicability analysis, and is also an important gap in the literature.

Discussion

A growing number of studies have focused on the use of participatory methods in improving the psychological well-being of children and adolescents. This led to the need for this review. Despite the limited evidence base identified in the review, the findings still provide some valuable practical guidance on how to use participatory methods to conduct research in collaboration with children and adolescents. The findings also highlight the limitations of the participatory method employed in such studies to date and point to areas for improvement in future participatory studies. The review identified 14 studies that employed participatory methods and in some cases evaluated them. Most of these studies were conducted in countries with Very High Human Development ($HDI \geq 0.800$), which is consistent with the development of the participatory method. Due to different social structures and cultural factors, the participatory method faces some challenges in countries with suboptimal levels of human development ($HDI \leq 0.799$) (Puri et al., 2004). Unfortunately, except for two studies where the HDI values could not be determined, the three studies in the list that were rated below average in terms of quality all came from two countries with relatively low HDI values, mainly focusing on the lack of a strict data analysis process (Karan & Erdemir, 2023), clear participant roles (Akkan et al., 2019), appropriate participant recruitment process and low participation level (Agudelo-Hernandez & Belen Giraldo Alvarez, 2024). However, all these three attempts emerged in the past five years, marking that participatory research has begun to be effectively practiced in these regions. It must be admitted that although a country's comprehensive strength may restrict the development of participatory methods, the application of participatory methods in these regions can still serve as a catalyst to promote their development.

Participatory Design with Children

The results of this review on how participatory methods can be used to improve the psychological well-being of children and adolescents can be used to guide practice. The study identified different expressions of participatory methods, including Co-constructed, Co-production, Co-design, Co-creation, Rights-based, Community-based Participatory Research (CBPR), Participatory methods, Child-centre, Participatory action research (PAR), etc. All but four studies used mixed methods, and the rest used qualitative research designs. Schools and communities are the most commonly used environments for targeting children and adolescents. Only three studies used frameworks to guide their research, one of which used frameworks from the field of psychology of Acceptance and Commitment Therapy (ACT) (Harris & Hayes, 2009) and Dialectical Behavioural Therapy (DBT) (Linehan, 1987). Two other studies used concept maps (Kane & Trochim, 2007) and GAMified CO-design with CO-operative learning (GaCoCo) (Doderio et al., 2014). All three studies received high scores in the quality assessment. It is not difficult to see that the use of guidance frameworks is not widespread, which may affect the quality of research

and participatory methods. This is consistent with the conjecture made by Freire et al. (2022). Again, due to the small number of studies using the framework in this review, the authors cannot conclude whether the two are correlated. Moreover, the authors acknowledge that there may not be a suitable framework that can be applied extensively in the study of participatory methods, especially in relation to psychological well-being. This highlights an important gap in the field and the importance of publishing more high-quality research.

Most of the studies under review used multiple activities and utilized a wide variety of tools as part of the research methodology. Focus groups, workshops, interviews, brainstorming, world cafes, mapping techniques, ‘Wheel exercise’ and photo studies are the most common participatory activities. Most studies use one or more of these. According to different activities, different researchers design and arrange tools according to the actual situation of the participants. Among them, discussion, writing, using prototypes and notes are common participation tools. It is worth noting that for children and adolescents, because they are in the development period of understanding, the appropriate way of participation becomes the key factor of their participation level (Doderio et al., 2014). Therefore, different from common participatory tools, drawing, storytelling, description, take photo, role play & scenarios, visual cards and other participatory tools for children and adolescents have emerged. These tools are often based on tasks or activities and can be highly intuitive, involving, for example, mapping, ranking, and photography. The unique feature of the tools chosen for use with children is that their potential “fun factor” is usually considered, which may reflect the hypothesis that “children” have a lower “attention span” for research than adults mentioned by Crivello et al. (2009). Table 6 summarizes the complete list of activities reported in the study and may be useful for researchers using participatory methods. The use of a variety of participatory activities and tools can help children and adolescents express their inner thoughts, while allowing researchers to develop discussions based on the children’s expressions, thus making the interpretation process more collaborative (Hart et al., 2008; Mauthner, 1997). However, there is a lack of insight into what activities and tools should be used in children and adolescents at different times or levels of development. Although Akkan et al. (2019), and Rocha et al. (2023) tried to use different participation activities and tools for children or adolescents of different ages, the reasons behind such operations and applicability were not given. Future studies should take into account the fit between the developmental level of participants and the participatory activity, and attempt to provide more broadly referential criteria to establish the evidence base for this inclusive approach.

“Participation” can be understood as an “umbrella term”. One emphasizes the degree of participation, e.g., participation, co-design or co-decision-making (Müller-Kuhn et al., 2021). As mentioned earlier, the type of participation becomes a key factor in the level of participation, which is linked to emotion and product quality (Genari et al., 2017). Therefore, the degree of participation has become the key factor affecting the effect of participatory method. In terms of participation in activities, different definitions and assessment methods exist. Hart’s (1992) famous “participation ladder” emphasizes that participation is a continuous process, children and adolescents can participate in different stages of the project to different degrees, and gives

a hierarchical reference for the degree of participation. Hart classified levels 3 and below (Manipulation, Decoration, Tokenism) as Non-participation, beginning with level 4 “Assigned but informed” and ending with level 8 “Child-initiated, shared decisions with adults” belongs to effective participation. Of the 14 studies included, most reached level 6 (Adult-Initiated, shared decisions with children), except for one study that only reached level 4. In addition, one study reached Level 7 (Child-initiated and directed). Such gratifying results may be due to the fact that all the included studies are within the last 10 years, and the participatory method has been developed quite maturely, so the researchers put the degree of participation in a very critical position.

Second, the term participation is also used to engage in processes, such as planning and decision-making processes (Müller-Kuhn et al., 2021). Referring to the definition of participatory design in the study of promoting, intervening and treating adolescents’ online mental health by Hagen et al. (2012), and participatory design is summarized into five stages: Identify Define, Position, Concept, Create and Use. These stages can help researchers plan the purpose of participants’ participation in the research process. The review found that children and adolescents were more likely to engage in early stages of the process, such as Identify and Define, with few studies involving participants at later stages. This finding is consistent with the results of another systematic review on the use of participatory methods in health resources and interventions (Freire et al., 2022). This finding may reflect a number of factors, including: (1) The later stage requires a higher level of cognition and ability on the part of the participants, with limitations on the age stage to which it applies. (2) The participatory method is still a relatively new attempt in the study of children’s psychological well-being. (3) The difficulty of participating in the implementation under different backgrounds. For example, in the case of marginalized people or children in countries with suboptimal levels of human development, cultural influences have left them without a sense of being able to express their own views, but subordinate to adults (Hussain et al., 2012). Therefore, this greatly increases the difficulty of using participatory methods. At the same time, it also provides the direction for future research.

Conceptualize Children’s Psychological Well-Being

This review found significant differences in the conceptualization of the term psychological well-being of children. Most studies define psychological well-being as “well-being” and according to the context and other definitions as “emotion”, “happiness” and “belonging” can be classified into one category, namely emotional state. This is consistent with the definition of happiness in Hascher (2010, p.4), who states that happiness is the dominance of positive emotions and perceptions of the environment over negative emotions and perceptions. Another section defines mental well-being as “mental health”, which is associated with mental illness and extreme behavior, Such as suicide and mental disorders (Agudelo-Hernandez & Belen Giraldo Alvarez, 2024; Baumann et al., 2024). Contemporary child well-being understanding conceptualizes children and childhood from a broader perspective, focusing not only on negative factors but also on positive competencies (Kellock, 2020, p.221).

In monitoring the multidimensional aspects of child well-being, there is an increasing emphasis on listening to and highlighting the subjective voice of the child, in addition to identifying objective indicators related to the child's living conditions (Cho & Yu, 2020). This may be the reason why most studies focus on conceptualizing or defining this concept. In these studies, this emotional state is defined as an overall concept that arises from the interaction of individual, sociocultural and environmental factors. (Barron, 2022; Marks et al., 2023; Yarosh & Schueller, 2017).

Assessment of Children's Psychological Well-Being

As mentioned earlier, most research focuses on children's and adolescents' perceptions of psychological well-being, so there is a tendency to use qualitative study designs. Most of these studies use content analysis and thematic analysis as methods of data analysis. Surprisingly, there was a study that suggested a different qualitative analysis. Fortuin et al. (2024) used the concept mapping software RC-Map (implemented in the R program (version 4.0.3)) for data analysis, not only to give qualitative ideas and average importance of each cluster, but also to provide data and graph support (Bar & Mentch, 2017).

Four studies used a mixed research design. In terms of scale use, Alves-Oliveira et al. (2022) and Rocha et al. (2023) used simple stress and emotion scales or single stress questions. This is due to taking into account the age of the targeted population to improve response rates and engagement. Similarly, Gennari et al. (2017) used Graduated Achievement Emotions Set (GR-AES) to study children's emotions during activities, helping participants understand the differences in emotions in the form of pictures. Instead, Ahlborg et al. (2024) used multiple scales to detect patterns of complex interactions between multiple factors in the data. For example, Cantril's ladder, Health Behaviour in School-aged Children Symptom Checklist (HBSC-SCL), Mental Health Continuum (MHC-SF). Unfortunately, there is no standard way to assess children's psychological well-being, which has caused some confusion for researchers in the process of research. However, it is not difficult to see that for children and adolescents, a short, easy-to-answer scale is a better choice.

Children's Participatory Methods and Psychological Well-Being

Most studies are directed at how participatory research can be used to positively influence the overall design process and outcomes. For example, Fitton and Read (2016) study how children can be involved in the "creation of early design concepts" in a meaningful way to enhance the effectiveness of design results. In this case, the participatory method more as a kind of method or tool. Of the 14 studies included, 11 were for this purpose. For example, Yarosh and Schueller (2017) used participatory design to probe children's understanding of positive psychology. Fortuin et al. (2024) to understand children's perceptions of health and well-being. A slight difference is that Alves-Oliveira et al. (2022) use participatory methods to design social robots more suitable for children to improve children's psychological well-being. It

is easy to see that these are all about participatory methods as a tool to achieve better results.

Another research perspective on participatory methods is to look at participation as an intervention or moderation measure and study the impact of participatory methods on children. The word “participation” is closely associated with the concepts of democracy, self-determination, liberation, integration, justice and inclusion (Reisenauer & Gerhartz-Reiter, 2020). This is also consistent with belonging, hope, and mindfulness for psychological well-being. Only three of the included studies attempted to study the participatory method as a moderator or intervention. Two of them can only be said to have begun to use participatory methods as measures to assess psychological well-being, and strictly speaking, only the study of Gennari et al. (2017) really focused on the impact of engagement processes on mood. In fact, children’s participation has been identified as potentially beneficial for children’s psychological well-being (Hamari et al., 2016). However, the relationship between different participatory practices and student well-being remains unclear. This may be due to the fact that “participation” as a concept covers multiple meanings. Since such theoretical and databases are still scarce, this is also the direction of discussion that this paper hopes to stimulate.

All but three of the existing studies were conducted after 2019, and two were specific to COVID-19. This may be due to the global COVID-19 pandemic that has heightened concerns about psychological well-being. Children and adolescents are more vulnerable in this period, which also makes more researchers begin to pay attention to the development of children’s psychological well-being and begin to try different ways to intervene. Participatory methods are increasingly being used to promote child and adolescent well-being, but more can be done to have a positive impact on children and adolescents (Ott et al., 2023).

Theoretical and Academic Contributions

Beyond summarizing the empirical findings, this systematic review makes significant contributions to the theoretical and academic contributions on participatory methods for child and adolescent psychological well-being. Firstly, it directly responds to and systematically fills a significant gap in the existing literature: the lack of a comprehensive review of participatory methods tailored specifically for this particular group and focused on their psychological well-being (Clarke et al., 2015). By integrating empirical evidence from the past decade, this review provides an authoritative overview for understanding the latest practices and challenges in this field. More importantly, we have clearly defined and empirically supported the “dual role” framework of the participatory method in children’s psychological well-being research and intervention, which is also a response to the singularity of the role of the participatory method (Vink et al., 2016; Warwick et al., 2018). This framework illustrates that the participatory method not only serves as a powerful methodological tool (effectively revealing contextized needs and co-designing interventions), but the process itself can be seen as an empowerment driven intervention, by actively promoting children’s agency, ownership, social connection and

resilience. Potentially contribute directly to the core dimensions of their psychological well-being (such as efficacy and sense of belonging). This deepens the understanding of the intrinsic value of the participatory method, transcending its traditional role as merely a data collection or design aid.

Secondly, this study systematically evaluated the actual participation level of children in the included studies at the systematic review level by applying Hart's (1992) participation ladder model. The research found that most studies reached the effective Level of "adult-initiated, co-decision-making with children" (Level 6), which provides a preliminary empirical basis for understanding how "participation quality" (such as the degree of decision sharing) may be related to intervention acceptance (Gennari et al., 2017), design output quality and children's psychological experience. It has promoted the exploration of the relationship between "quality" and "effect" in the participation theory. Furthermore, the review results critically reveal a key theory–practice disconnection in current research: Although there are integrated psychological well-being models (Dodge et al., 2012), the definition and operationalization of children's psychological well-being in empirical research are still narrow, overly focusing on emotional indicators (such as happiness and belonging), and relatively neglecting the integration of multiple dimensions such as cognition, behavior, and social functions as well as their cultural roots (Gee et al., 2014). This discovery strongly calls for future research to adopt a more comprehensive, multi-dimensional and culturally sensitive conceptual framework.

Finally, this study critically identified the core challenges that hinder the theoretical deepening in this field, such as the lack of standardized tools for assessing the impact of the participation process on psychological well-being, the severe insufficiency of cross-cultural adaptation research, the absence of attention to the fit between development levels and participation methods, and the weak empirical evidence base for "participation as intervention". This has pointed out the priority direction for future academic exploration: there is an urgent need to develop theoretical models and tools for evaluating the utility of the participation process, deepen the theoretical construction and verification of cultural adaptability and developmental suitability, and design rigorous research specifically to verify the independent contribution of high-quality participation processes as core intervention mechanisms to children's psychological well-being outcomes. These advancements collectively lay the foundation for building a more powerful and participatory method theory that is more applicable to the field of children and adolescents' psychological well-being.

Recommendations

The results of this systematic review provide several important implications. In fact, this review highlights the need for participatory approaches to understanding and intervening in the psychological well-being of children and young adults. Such understanding and interventions not only help bridge the gap between adults and children and adolescents, but also contribute to the individual development of children. By understanding the effects of different approaches on the psychological

well-being of children and adolescents, practitioners can refer to the diverse engagement activities (focus groups, workshops, world cafes, drawing, photography, role-playing, etc.) and tools (discussions, prototyping, drawing, storytelling, etc.) summarized in this review (see Table 6) according to the objectives (whether exploring needs, co-designing interventions, or empowering through engagement) and resources. Particular emphasis is placed on choosing development-appropriate tools (such as more painting and games for young children) and those with high interest to maintain children's participation. At the same time, when designing and implementing participatory projects, practitioners should consciously pay attention to the potential positive impacts of the participation process on children's psychological well-being (such as the experience of being listened to, social connections in cooperation, and the sense of efficacy brought by problem-solving), rather than merely focusing on the final output. A few studies (such as Gennari et al., 2017) can be referred to in an attempt to embed simple emotional or feeling feedback segments in the activities.

Furthermore, this review also provides a strong argument for policymakers to prioritize and fund children's psychological well-being projects based on the participatory paradigm. Research has found that participatory methods not only generate intervention programs that better meet children's needs, but the process itself (when it reaches the level of effective participation) has potential value in promoting psychological well-being (such as empowerment and a sense of belonging). This supports the inclusion of "promoting child participation" in national or local-level child psychological well-being strategies and well-being frameworks. Secondly, the review emphasizes that the lack of standardized assessment tools and insufficient research on cross-cultural adaptation are the core limitations. Policy makers should fund the development and validation of assessment indicators and tools for children's participatory psychological well-being programmes, and support research and pilot projects on the adaptation of participatory methods to different cultural contexts, especially in low-resource areas, to ensure the equity and effectiveness of interventions.

Finally, this study also provides researchers with application-oriented research directions. Future research should prioritize the development and validation of practical, short, and child-friendly tools for measuring the impact of the participation process itself on children's psychological well-being, such as self-efficacy, sense of belonging, and initiative, to meet the needs of practical assessment. Secondly, there is a strong call for research on the cross-cultural adaptation and effectiveness of participatory methods, especially in low—and middle-income countries or underserved communities (such as the attempt by Agudelo-Hernandez & Belen Giraldo Alvarez, 2024), to generate evidence of "what approaches work and how they work" in different resource and cultural contexts, and to enhance global applicability. In addition, conduct age-specific participatory method effectiveness studies to provide clear guidelines on which activities/tools are most suitable for a particular stage of development (e.g. Akkan et al., 2019; Rocha et al., 2023), making the practice more targeted..

Overall, this review highlights the importance of participatory methods in providing psychological assistance to children and adolescents, which holds significant practical implications for policymakers, practitioners, and researchers. It highlights the need for integrating child participation into well-being strategies, developing

standardized assessment tools, and supporting cross-cultural adaptation, especially in low-resource settings. By addressing these priorities, stakeholders can ensure more effective, equitable, and contextually relevant psychological support for children and adolescents.

Limitations

There are several limitations to this study. Firstly, this study only included peer-reviewed journal articles published in English, which inevitably excluded important research published in other languages that might contain unique cultural perspectives and localized participatory methods (especially in low—and middle-income countries). Although this ensures the manageability and language consistency of the review, it significantly limits our comprehensive understanding of the application of participatory methods on a global scale, especially in non-English dominant cultural contexts, and may weaken the universality and cross-cultural applicability of the research results. We recognize that the concepts of psychological well-being and ‘participation’ themselves have profound cultural embeddedness, and this limitation may lead to the suggestions we put forward not being applicable in certain cultural contexts.

Secondly, the significant heterogeneity of the included studies (such as research design, age range of participants, specific participation methods, definition of psychological well-being, and measurement tools) although reflecting the current development status of this field, also poses a major challenge to the integration and comparison of the results. This hinders us from conducting more powerful meta-analyses and makes it difficult to draw clear and universal conclusions about the effects of specific methods on children of different age groups. Although we adopted the narrative synthesis approach in an attempt to bridge the differences, this heterogeneity remains a core limitation of this study, highlighting the current urgent need for a more standardized research paradigm in this field. During the analysis process, we may not have been able to fully overcome the interpretive bias brought about by this heterogeneity.

Finally, although we identified that “the participation process itself as an intervention” is an important emerging perspective, the review found that the vast majority of existing studies (with only three excluded) mainly view the participatory method as a “tool” for obtaining information or jointly designing intervention outcomes, rather than independently examining the direct impact of the participation process on children’s psychological well-being (such as self-efficacy, sense of belonging, and empowerment). This makes it difficult for us to forcefully answer the key question of “How and to what extent participation itself promotes psychological well-being”. We admit that this is a significant gap in the research of this field and also the core limitation of this review that cannot be deeply explored due to the lack of original research, which restricts our understanding of the intrinsic therapeutic value of participatory methods.

Conclusion

This review provides an overview of existing literature on the application of participatory methods to the psychological well-being of children and adolescents since 1990. First, it identifies which participatory methods have been widely used and applicable in improving children's psychological well-being. Second, the focus was on the level of participation of children and adolescents in these studies. The definition and conceptualization of mental well-being was then reviewed, with a more comprehensive complement to the concept of children's mental well-being following the inclusion of mainstream and diverse perspectives. In addition, a comprehensive summary of the methods used to assess the psychological well-being of children and adolescents using participatory methods is presented. The review provides some practical references to how participatory methods can be used to improve children's psychological well-being. It is worth noting that the application of participatory methods in countries with suboptimal levels of human development and children at risk provides new directions and possibilities for research. Finally, the research of participatory methods is divided into two categories: (1) as a method to help the research to get results; (2) as an intervention tool, participation itself has an impact on participants. In addition to focusing on the use of participatory methods as tools in multiple fields, more researchers are encouraged to look at the impact of participatory methods themselves and how to evaluate these impacts.

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Data Availability This systematic review is based on publicly available literature, which is cited in the reference list. The search strategies, inclusion/exclusion criteria, and data extraction forms are detailed in the Methods section and can be requested from the corresponding author for transparency.

Declarations

Competing interests The authors have no competing interests to declare that are relevant to the content of this article. The authors have no relevant financial or non-financial interests to disclose. The authors have no financial or proprietary interests in any material discussed in this article.

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