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Adolescent social innovation education: A scoping review

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ABSTRACT

Social innovation education (SIE) is a student-led collaborative process of creating and initiating unique solutions to social issues. Though established from evidence around service and civic education, limited research looks specifically at SIE and the impact of creating student-led tangible social change project in adolescence. Using the Arksey and O'Malley framework we scoped studies that evaluated programmes for adolescents that met the qualities of SIE. Eighteen studies were identified, evaluating 17 different programmes. Programme delivery methods were flexible across length, setting, age, facilitator, and techniques, with 13 programmes utilising stages to map the process. The most frequent programme outcomes researched were skill development, civic engagement and commitment, and social and civic responsibility. Further programme characteristics and outcomes are discussed.

The development of purpose in adolescence is important for the promotion of meaning and the consolidation of identities through adulthood (Damon et al., 2003). Having a purpose, or the desire and capacity to make meaningful contributions, is an important indicator of thriving, or wellbeing (Lerner et al., 2002). One way to influence purpose develop is through the presence of structured opportunities to take on valued roles in the community (Benson et al., 1998; Malin et al., 2013). Social innovation education, a modern pedagogical educational process that provides students with the chance to create solutions to issues they find important, may provide just that opportunity.

Social innovation, a term that has gained popularity across sectors over the past two decades, in its simplest form is the collaboration of ideas or use of creativity with the goal of making society better (Milley et al., 2018). Researchers, governments, and educational institutions have begun exploring ways to educate others on how to 'do' social innovation and as a result *social innovation education* (SIE) has been created to describe this process. The process of SIE involves learning how to be socially innovative while also carrying out tangible projects to make society better, rather than just the discussion or brainstorming of solutions. While other modes of civic-based pedagogies might discuss issues within the world, they do not always focus on social issues, and they do not always require a social change project.

The field of SIE is relatively new, with limited research exploring its impact. While SIE at the university levels has become a topic of recent researcher interests (e.g., Alden Rivers et al., 2015; Hazenberg et al., 2019), the empirical research underpinning the benefits of SIE in adolescent populations is absent (Kalemaki et al., 2019). Several programmes exist that provide SIE opportunities to adolescents (e.g., Young Social Innovators, NEMESIS), with each programme providing their own anecdotal evidence on websites and marketing materials, such as participant experiences and stories of participant journeys or project success, that indicate a variety of outcomes including those associated with wellbeing, however the empirical research underpinning the benefits of SIE in adolescent populations is lacking (Kalemaki et al., 2019). SIE is assumed to help young people develop the skills needed to be contributing members of society,

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while the act of helping others, which is seen through the SIE projects, is linked to wellbeing (Lerner et al., 2002).

SIE may appear to be a new concept, but the educational process of providing opportunities to make meaningful impact on the community is not. SIE has emerged from a large evidence base on service learning, civic education, entrepreneurial education, and changemaker education (e.g., Rukhsana, 2020; Bauml et al., 2021). Currently there is a terminology issue, where the research underpinning SIE is confounded by this hybrid of terms, making it hard to distinguish research on programmes that fall under SIE, and those that investigate similar, yet different, educational processes. For example, there is evidence supporting the benefits of experiential and transformational learning (e.g., Năstasă et al., 2021; Sermboonsang et al., 2020), which are two learning processes occurring during SIE, however studies looking at such learning are not necessarily exploring SIE specifically, as there are a variety of pedagogies that utilise these foundational learning methods. For this reason, while there is support for possible benefits of SIE, the evidence-base underpinning SIE has yet to be explored systematically. Clearly there are important impacts of SIE for students, and it would be valuable to perform a meta-analysis of the impact of SIE, however without knowing what the evidence-base looks like, we do not know what type of methods or outcomes have been studied. In order to perform a future meta-analysis, a scoping review will help provide a basis for research within this field.

To inform the development and future research into the field of SIE, it is important to first distinguish qualities that separate SIE from other educational processes, and then to scope the research that exists on research surrounding SIE that uses different terminology. This research aims to resolve these issues by scoping the previous research that evaluates the effectiveness of SIE programmes delivered to adolescent populations. By exploring the research around these programmes, we will better understand the research and outcomes supporting the development of SIE as an educational opportunity for adolescents.

1. Defining social innovation education

Social innovation is a transdisciplinary and cross-sectoral term, that in its simplest forms, can be defined as 'innovative activities and services that are motivated by the goal of meeting a social need' (Muligan, et al., 2007, pp.8). As a result of the multidisciplinary nature of social innovation, there is no common definition describing the process of *educating* others on how to enact social innovation, a process that has been named s*ocial innovation education* (SIE). Relatively few institutions have set out to establish definitions of SIE. For example, practice-oriented programs such as Young Social Innovators (Young Social Innovators 2022b), define SIE as, 'the practice of using creativity to develop solutions which improve the wellbeing of people and society'. The first empirically documented definition from Alden Rivers et al. (2015) defined SIE as:

'The complex process of developing graduates who aspire to change the world for the better, regardless of career path. These individuals are knowledgeable, socially, and ethically responsible, as well as emotionally intelligent innovators, leaders, and communicators (p. 388).'

Building on this research, Kalemaki et al. (2019) utilized a more systematic approach by conducting a literature review, which was limited to the one publication specifically on SIE, in combination with educators' concepts of SIE, and defined SIE as:

'A collaborative and collective learning process for the empowerment and socio/political activation of students to drive social change no matter what their professional pathways. It builds their competences to identify opportunities for social value creation, to form collaborations and build social relationships and take innovative action for a more democratic and sustainable society (pp. 17).'

Through this examination, three main criteria emerge that should be included in a definition of SIE, which are:

(1) It is a student-directed collaborative educational process.
(2) That aims to lead to personal development, and

Table 1
Application of educational terms to SIE criteria.

Term	Definition	Criterion 1*	Criterion 2**	Criterion 3***
Changemaker / Global Changemaker	'Anyone who identifies a social problem, develops a creative solution to address it, mobilises others, and creates opportunities for the good of all' (ASHOKA, 2020).	Unclear	Yes	Yes
Civic and Citizenship / Global Citizenship Education	Educational process aimed at increasing awareness and understanding of the rapidly changing, interdependent and unequal world in which we live (World Wise Global Schools, 2022).	Unclear	Possibly	Possibly
Social Entrepreneurship / Entrepreneurial Education	"Preparing people to be responsible and enterprising individuals. It helps people develop the skills, knowledge, and attributes necessary to achieve the goals they set out for themselves" (European Commission 2022).	Unclear	Yes	Possibly

Note.
* A student-directed collaborative educational process.
** Leads to personal development.
*** Leads to the creation and implementation of solutions to better society.

(3) Aims to lead to the creation and implementation of solutions to better society.

Limited research exists around SIE, partially due to the novelty of this field, and partially due to the perplexity of terms that exist describing programmes with similar goals. To help solidify a definition in this newly forming field, it was also important to investigate other civic-based educational terms that have been used in programmes and interventions that have similar goals to SIE, a step which was left out of previously mentioned analyses. Civic-based pedagogical terms such as changemaker, civic education, citizenship education, and social entrepreneurship appeared within programmes and readings similar to SIE, and therefore were examined to help solidify our understanding of SIE. Definitions of these terms are explored in Table 1 in relation to their connection to each of the SIE criterion. This analysis also helped inform the search terms used in the scoping search.

When comparing the three SIE criteria discussed above, to various civic-based educational terms (Table 1), two of the SIE criteria separated SIE from these other civic-based educational processes. These were criterion one, the requirement that the learning being student-led, and criterion three, the output of an actual solution to real-world to social issues. Based on current SIE programmes, as discussed below, the projects are student-directed throughout. This means students get to pick the social issue they want to focus on,

Table 2
Examples of social innovation education programmes.

Title	Citation	Location	Population	Aim / Mission	Framework
SIX	Social Innovation Exchange Ltd., 2022	Europe	Governments, businesses, academics, funders, practitioners, and intermediaries	"To work globally to facilitate purposeful cross-sector conversations, that challenge and inspire people to use innovation to increase social impact."	The SIX approaches to facilitate purposeful cross-sector change involves the following levels support: 1 Storytellers and translators 2 Enablers 3 Designers 4 Facilitators and 5 Extractors
CQUniversity	CQ University, 2022	Australia	University students	"All graduates from CQUniversity have a social innovation mindset with the confidence and passion to use their disciplinary and non-disciplinary capabilities to address social issues and contribute to our collective human wellbeing."	SIE strategy has 5 focus areas: 1 Curriculum underpinned by UN's Sustainable development goals, 2 Embedding SI capabilities into courses, 3 Introducing SI and vocational educational training awareness, 4 SIE through leadership, and 5 Offering innovation courses
Social Innovation Japan	Social Innovation Japan, 2021	Japan	Global Brands, governments, and social changemakers	"We already have the resources to create a fairer, more sustainable world; we just need to make it happen."	N/A
Young Social Innovators	Young Social Innovators, 2022	Ireland	Secondary school students	"To provide social innovation education that empowers young people to take action on social issues."	Social innovation learning framework: 1 Values of social innovation 2 Experience of innovators 3 Pathway of Change a Explore & Create b Test & Adapt c Act & Reflect d Recognize & Celebrate 4 Reflection on Practice
NEMESIS ("Novel Educational Model Enabling Social Innovation Skills")	NEMESIS, 2022	Europe	Primary and secondary school students	"Foster entrepreneurial mindsets and creative thinking among primary and secondary students, allowing them to become the social innovators of tomorrow."	Key stages of the Nemesis Model: 1 Understand social innovation 2 Investigate sustainability challenges 3 analyse and Empathize 4 Co-Develop ideas and solutions 5 Co-create social innovation projects

they decide on how they will research the issue, and then they develop their own project and network of supports to help carry out their plan. The teacher might be guiding them through the process, but it is the students who decide on how they will progress. Though other terms might align closely with the conceptualisation of SIE, they will not completely be SIE unless these themes are met. Based in this, SIE can be defined as:

> An educational practice that engages young people in a self-directed collaborative approach toward creating and initiating unique solutions to challenges within the community, in return developing the skills required to become contributing members of society while simultaneously bettering the wellbeing of the adolescents and the community.

2. Examples of SIE programmes

Programmes promoting SIE have been developed throughout levels of society, from primary school through to organisational management levels. These organisations span globally, reaching all corners of society, each with the focus of teaching others how to be create social change through social innovation. Some organisations, like SIX (Social Innovation Exchange Ltd, 2022) and Social Innovation Japan (Social Innovation Japan, 2021), target corporations and government, and aim provide the supports and resources needed to take a social issue and create change. On the education front, organisations, such as CQUniversity (CQUniversity, 2022), work to incorporate aspects of SIE into undergraduate curriculum, while other organisations, such as Young Social Innovators (Young Social Innovators, 2022) and NEMESIS (NEMESIS, 2022), seek to provide younger populations with the chance to become change-makers who make an impact in their community through innovative social projects. Information on these programmes, their location, their target populations, motto, and stages can be found in Table 2. These programmes demonstrate the importance to SIE throughout all levels of society and highlight the possible value in teaching the process of how to be social innovation to younger populations. Given the gap in research into this field, the reach of these programmes also highlights the importance of providing a basis for future research, which this paper seeks to provide.

3. The current study

Scoping reviews are transparent preliminary evaluations of the potential size and scale of available research and literature on a specific topic or field of research, particularly those that have not yet been extensively reviewed (Grant & Booth, 2009). By focusing on broader topics, and by avoiding overly refined parameters, scoping reviews provide constructive information to determine the value, cost, and possible structures that would be required for a more rigorous and systematic review approach (Arksey & O'Malley, 2005; Pham et al., 2014). SIE is a relatively new field, yet there exist several terms to describe the act of educating others on how to be socially innovative, such as civic education and changemaker education. Consequently, the lack of clarity between SIE and these other terms, as discussed above, creates incoherence within existing research. As a result, it is challenging to know if research is exploring SIE or another similar, yet different, civic-based educational process. A scoping review will provide an initial attempt to synthesize current research with an open and extensive scope of research on programmes similar to SIE. To do so, this scoping review is guided by the questions, *what evaluated programmes meet the characteristics of social innovation education, what are their characteristics, and how are they evaluated?*

4. Methods

4.1. Scoping review framework

The protocol used for this scoping review followed the Arksey and O'Malley (2005) framework. This framework emphasises the importance of methodological rigour and transparent stages, which are well documented to allow for future replication. This framework utilizes five iterative stages: (1) identify the research question, (2) identify relevant studies (3) study selection, (4) chart the data, and (5) collate, summarize, and report the results. The preferred reporting items for systematic reviews and meta-analyses extension for Scoping Reviews (PRISMA-ScR; Tricco et al., 2018) checklist (S1) was also used to guide this report. The team, which included all three authors, met to work through these stages. The following is a documentation of the process.

4.2. Search strategy

The following databases were selected based on their relevance to the fields of education and social sciences: Academic Search Complete (EBSCO), Social Science Premium Collection (ProQuest), PsycINFO (ProQuest), SAGE Journals- Education, SCOPUS. To extend the search into grey literature while maintaining the criterion of being peer-reviewed, Dissertations and Theses A&I (ProQuest), OpenDissertations (EBSCO), and E-theses Online Service (EThOS), were searched to.

The inclusion criteria used in the scoping review were: (1) articles needed to be peer-reviewed and (2) published in English. Furthermore, (3) population studied needed to be adolescents (age 10–19), the programme needed (4) to meet the defined criteria of SIE, and (5) include an evaluation of participant outcomes. Studies that had no method of evaluating programme effectiveness on adolescents were excluded from analysis. These inclusion and exclusion criteria were used to focus the review on evaluated adolescent-focused SIE programmes.

To determine the search terms used to identify relevant studies, a repetitive process of selecting, testing, consulting on, and refining

search terms was conducted. The search terms are displayed in Table 3.

4.3. Screening

Records identified in the databases were imported into Microsoft Excel. The lists of records were combined, and duplicates were removed, resulting in 2192 records for title and abstract screening. Articles identified were published between 1933 through 2021, and included a mixture of peer reviewed journal articles, theses/dissertations, books and book chapters, and conference papers. Once duplicates were moved, we went through several steps to create a rigorous screening protocol. First, in order to solidify and achieve consensus on the inclusion / exclusion criteria used for the screening, a test screen was carried out by all three authors on five records that were randomly selected. During this stage we created working definitions of each inclusion and exclusion criteria and discussed several ways that the criteria might appear in the abstract and title. We also discussed the rating process that would be used for the screening.

A red light, yellow light, green light rating method was followed to rate if each criterion was met during the initial screening of abstracts and titles. If the field was included in the abstract or title and it matched our criteria (e.g., correct age range, mention of evaluation such as interviews, project reports, or surveys, etc.), then we gave that criterion a green light. If the field was included and it did not match our criteria (e.g., mention of different age group, mention of projects focusing on another topic such as English or history, etc.), then it was given a red light. If there was no mention of the criteria at all in the abstract or title, then it was given a yellow light. Any record that had either green or yellow lights, or a mix of the two, were sent on to the next stage of full-text screening. Any record that had a red light on a criterion did not move on. Before records were removed, the first author randomly selected 30 articles reviewed by the third author to independently re-check to further confirm criteria were followed and inter-rater reliability was strong. This process was to ensure that articles which left important details out of the abstract related to the criteria were not overlooked.

As part of the process, we went through several training sessions to ensure that we were following a rigorous protocol. To confirm that consensus was held during independent screening, a second round of test screening was conducted by the first and third authors on a randomly selected set of 25 records. Inter-rater reliability during the test screening was high ($K = 0.86$). Our third stage of screening involved the first and third authors screening all records using this rating system.

The title and abstract screen resulted in 227 records identified that met (green light), or maybe met (yellow light) the criteria. It was noted that several abstracts ($N = 115$) left participant age information out, so at this time the first author went through full texts to screen for age. 120 records were shortlisted for full text screening.

The first author retrieved all available publications and reached out to publishers and authors via email when publications were not fully available. If there was no response within a few weeks, authors and publishers were emailed a second time, because the attempt was ceased. Of the 120 articles identified, 116 were retrieved and went through full text screening using the same red light, yellow light, green light rating method. Any queries on the relevance of full texts were managed by the three authors through discussion. The full text screening identified 18 studies that progressed to the data extraction stage. Diagram 1 shows the process of study inclusion in the scoping review.

4.4. Data extraction

Data were extracted from the 18 studies to answer the research questions regarding SIE programme characteristics and SIE programme evaluations. Data on SIE programmes included SIE terminology, programme location, programme length, number of lessons, programme facilitator, and programme stages. Data on SIE programme evaluations included participant information (e.g., age range, gender), study design (e.g., quasi-experimental, pre-experimental, mixed methods, etc.), data collected (e.g., surveys, journals, interviews), and outcome dimensions (e.g., skills, competencies, knowledge growth). Further data were extracted on the study characteristics (e.g., year of study conducted, funding source, dissertation, or journal article). The studies used a variety of evaluation methods. For quantitative studies, data were extracted on assessments used, assessment references, assessment domains, control variables, assessment completion, etc. For qualitative studies, data were extracted on types of qualitative data collected, who completed them, example questions, and what the aim of the data was. When a study was mixed methods, both types of data were extracted. There was no review of the study methodological quality, as it was not relevant for the scoping review to comment on the quality of studies for the purpose of evaluating the quality of synthesised results (Grant & Booth, 2009).

A data extraction framework (S2) was created by the first author and was independently piloted by the first and second authors. Once agreement was reached on the utility of the data extraction framework, a data extraction spreadsheet was created in Microsoft

Table 3
Search terms.

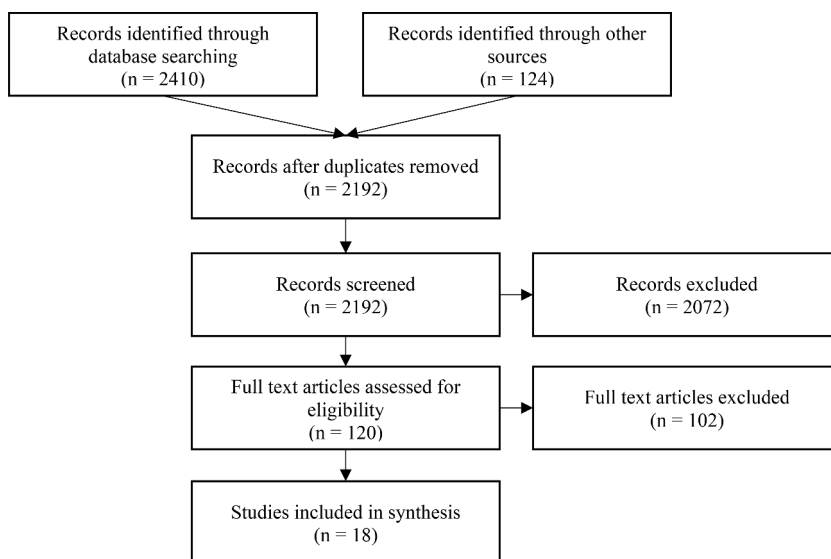| Construct		Terms
SIE		"Civic Engagement" OR "Social Innovation" OR "Global Citizenship" OR Changemaker OR "Entrepreneurial Education" OR "Service Learning" OR "Global Citizen" OR "Citizenship Education"
Intervention Evaluation	AND	Evaluation OR Intervention
School Students	AND	Student OR Youth OR "Young Person" OR "Young People" OR Adolescent* OR Adolescence OR School
	NOT	Undergraduate OR College OR University OR "Third Level" OR Polytechnic OR "Technical College" OR "Primary School" OR "Elementary School" OR Postgraduate

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┌──────────────────────────┐      ┌──────────────────────────┐
│ Records identified through│      │Records identified through │
│   database searching      │      │      other sources        │
│      (n = 2410)           │      │        (n = 124)          │
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                   ┌──────────────────────────┐
                   │Records after duplicates   │
                   │       removed             │
                   │      (n = 2192)           │
                   └──────────────────────────┘
                   ┌──────────────────────────┐      ┌──────────────────────────┐
                   │   Records screened        │─────▶│    Records excluded       │
                   │      (n = 2192)           │      │      (n = 2072)           │
                   └──────────────────────────┘      └──────────────────────────┘
                   ┌──────────────────────────┐      ┌──────────────────────────┐
                   │Full text articles assessed│─────▶│Full text articles excluded│
                   │     for eligibility       │      │      (n = 102)            │
                   │      (n = 120)            │      └──────────────────────────┘
                   └──────────────────────────┘
                   ┌──────────────────────────┐
                   │Studies included in synthesis│
                   │      (n = 18)             │
                   └──────────────────────────┘
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Diagram 1. PRISMA diagram of search strategy and results.

Excel (S3). Data extraction was completed by the first author in collaboration with the second author. To ensure accuracy, the first author confirmed extracted data were correct by double checking all extracted data before the analysis.

4.5. Data analysis

In order the answer the research questions, w*hat evaluated programmes meet the characteristics of social innovation education, what are their characteristics, and how are they evaluated,* both qualitative and quantitative data were analysed. Quantitative data included information on study characteristics (e.g., year of publication, location, publication method, etc.), programme characteristics (e.g., length of programme, number of lessons, facilitator, use of phases, etc.) and evaluation characteristics (e.g., methods of data collection, measures used, dimensions analysed, etc.). Quantitative data was analysed through frequency tables.

Qualitative data included information on programme stages, students' projects, and the outcome dimensions of the qualitative data collected. Qualitative data were organised thematically based on similarities within descriptive terms and outcome dimensions. Qualitative data generated on the qualitative studies were generated as summaries of the qualitative themes or questions topics in the absence of themes. The qualitative themes were entered as named by the researchers, and the question topics were summarised according to their main foci. This generated a set of qualitative data about the areas studied in the qualitative examinations. Those data were then organised thematically according to major topic, i.e., 'youth activism' and 'experiences of the programme'. The major topics were refined iteratively as the quantitative and qualitative data on programme outcomes were extracted and sorted across the dataset.

In some instances, both quantitative and qualitative analysis were combined. For example, when looking at the programmes' uses of stages, quantitative data included the number of programmes that outlined stages as well as the number of steps outlines by each programme which is more descriptive in nature, while qualitative data involved the title of each step, and how those might be similar or different from the other programmes. In order to answer the last part of the research question regarding programme evaluating, both the measure dimensions (quantitative data) and goals of qualitative data (qualitative data) were combined in frequency tables. Once data were extracted, the first author re-checked all data to ensure accuracy in extraction and to ensure nothing was overlooked.

5. Results

5.1. Study characteristics

A list studies scoped, and the study characteristics can be found in Table 4. Studies have been numbered in Table 4 for ease of reference in the results and discussion. Of the 18 studies that met inclusion criteria, all but one study (9) was conducted after 2000, with 10 studies being conducted since 2010 (1, 3, 5, 6, 7, 8, 13, 14, 17 & 18). Two studies were published as dissertations (12 & 15), while the other 16 were published in academic journals. Thirteen studies were conducted in the USA (1, 2, 3, 4, 6, 7, 8, 9, 10, 12, 13, 15, 18), while one study was conducted in each of the following countries: Turkey (5), Serbia (11), Morocco (14), China (16), and Italy (17). Thirteen studies declared research funding (1, 2, 4, 5, 6, 7, 8, 11, 13, 14, 15, 17 & 18).

5.2. SIE programme characteristics

Information extracted on each of the programmes explored can be found in Tables 5, 6 and 7. The studies were on 17 unique SIE

Table 4
Study iInformation.

	Author(s)	Year	Programme Title	Location	Study Design	Data Collection	School Setting*	Programme Sample			Control Sample			Other Sample	
								Size	M	F	Size	M	F	Type	Size
1	McKay-Jackson	2014	Chicago Freedom School (CFS) Freedom Fellowship	USA	Pre-experimental	Mixed methods	Middle school - high school	30	14	16					
2	Kahne at al.	2006	CityWorks	USA	Quasi-experimental	Mixed methods	High school	154			77			Teachers	6
3	Richards et al.	2015	Civic Engagement Curriculum (CEC)	USA	Quasi-experimental	Quantitative	Middle school	52	17	35	30	16	14		
4	Lee et al.	2008	Civic Leadership Institute (CLI)	USA	Pre-experimental	Mixed methods	High school	230							
5	Akin-Sabuncu at al.	2017	From School to Community (FS2C)	Turkey	Pre-experimental	Qualitative	Middle school	82	45	37				Teachers	3
6	Ballard at al.	2016	Generation Citizen (GC)	USA	Quasi-experimental	Mixed methods	Middle school - high school	136	49	87	481	245	236		
7	Cohen et al.	2018	Generation Citizen (GC)	USA	Quasi-experimental	Mixed methods	Middle school - High School	350	127	171	482	229	225		
8	Blevins at al.	2016	iEngage Summer Civics Institute	USA	Pre-experimental	Mixed methods	Middle school - high school	116	58	58					
9	Kim at al.,	1996	Metropolitan Issues Programme	USA	Pre-experimental	Mixed methods	Middle school	656						Teachers	22
		Year	Programme Title	Location	Study Design	Data Collection	School Setting*	Programme Sample			Control Sample			Other Sample	
								Size	M	F	Size	M	F	Type	Size
10	Terry	2000	N/A (Community Action Service-Learning Project)	USA	Pre-experimental	Qualitative	Middle school	4	1	3					
11	Dull	2009	N/A (Service-Learning Project)	Serbia	Pre-experimental	Qualitative	High school	21	5	16				Teachers	1
12	Lakin & Mahoney	2006	N/A (Youth Community Service Program)	USA	True experiment	Mixed methods	Middle school	29	8	21	14	7	7		
13	McLoughlin	2010	Positive Peer Group Program	USA	Quasi-experimental	Quantitative	High school	26	18	8	?	?	?		
14	Bentahar & O'Brien	2019	Project Citizen (PC)	Morocco	Pre-experimental	Mixed methods	Middle school - high school	71	36	35				Teachers Programme directors	4 2
15	Miller	2009	Project Impact	USA	Quasi-experimental	Mixed methods	High school	156	97	59	63	34	29		
16	Johnson at al.	2007	Roots & Shoots	China	Pre-experimental	Mixed methods	Middle school - high school*	23	9	14				Teachers	14
17	Dallago et al.	2010	The Adolescents, Life Contact, & School (AC&S) Project	Italy	Quasi-experimental	Mixed methods	Middle school	65			67				
18	Belansky et al.	2020	The Working Together Project (WTP)	USA	Quasi-experimental	Mixed methods	Middle school	63	30	33	123	63	60	Teachers Principal	4 3
								2264	**514**	**593**	**1337**	**594**	**571**		**59**

Note.
* Middle school can range from grades 5 to 8 (estimated 10–14 years old), high school can range from grades 9 to 12 (estimated 14–19 years old).

programmes, with one programme (Generation Citizen) studied twice by two independent research teams (6 & 7). Three programmes did not provide specific programme titles (10, 11, 12), but instead used a set phrase to describe the programme being investigated. These included 'community action service-learning project' (10), 'service-learning project' (11), and 'youth community service programme' (12). The other 13 studies explored more established programmes, some of which had their own official websites and organisations. A large number of terms were used by authors to refer to the programmes in their studies (Table 5), which helps to map the field of research on SIE, and the language programmes might use to describe SIE. Of the terms used to describe the programmes, the most common term was 'service learning', which was used in twelve studies (1, 2, 3, 4, 10, 11, 12, 13, 15, 16, 17 & 18), followed by 'civic engagement', which was used in eight studies (2, 3, 4, 6, 7, 15, 16 & 17). Active citizenship (1, 2, 5, 8 & 17) and civic education (6, 7, 8, 9 & 14) were each used in five studies, followed by 'action civics / civic action' (7, 8, 9 & 10), which was used in four studies. 'Citizenship education' (5, 9 & 14) and 'civic participation' (2, 8 & 17) were used in three studies each.

Most programmes were delivered during the school term ($n = 14$; 2, 3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17 & 18). The other programmes were either a summer programme ($n = 2$; 4 & 8), a summer programme that becomes a non-school related club ($n = 1$; 1), and a school-based after school club ($n = 1$; 16). Programmes were delivered by a range of people, including in-service teachers with support of a programme facilitator ($n = 9$; 4, 5, 6, 7, 11, 14, 15, 16 & 17), just in-service teachers ($n = 4$; 2, 8, 9 & 18), just programme facilitators ($n = 4$; 1, 3, 10, 13), or a researcher ($n = 1$; 12). Four of the studies mentioned that the programme facilitators were university students from universities in the local area (3, 6, 7 & 10). Four studies mentioned that their programme was delivered as part of an already established school subject, including business administration (11), social studies (5 & 14), US government (2), and Islamic education (14).

There was limited information regarding the number of lessons that make up the programme. Of information provided in the studies, lessons ranged from 6 to 30. Two of the studies (15 & 18) mentioned having additional time or additional workshops for the students complete their projects. The length of the programmes was described using varying terminology, from days, to weeks, to months, to semesters and years. For this reason, the length of the programmes was estimated, with the assumption that one semester equals 15 weeks and one-year equals 30 weeks. The shortest was a summer programme, which lasted 5 days (8). Two programmes lasted 13 weeks (4 & 17), six lasted 15 weeks (2, 3, 6, 7, 11 & 18), one was 25 weeks (13), one was 30 weeks (15), and one was 50 weeks (1). One study (10) had a range in lengths, from 21 weeks to three years. No information was provided on if it was the same students the entire three years, or if the groups changed annually. Five studies (5, 9, 12, 14 & 16) did not provide information on the length of the programme. Information on the programmes, including examples of student project topic, can be found in Table 6.

Of the 17 individual programmes scoped, 13 programmes (3, 4, 5, 6 & 7, 8, 10, 11, 12, 13, 14, 15, 16 & 18) mapped the process of the programme onto stages or phases. These stages charted what students should be doing at different parts of the programme, such as examining community issues, conducting research, creating a plan, and taking action. The number of stages ranged from three to six, with five programmes (3, 12, 13, 16, & 18) having three stages, one having four stages (4), four having five stages (6, 7, 10 & 14), and four having six stages (5, 8, 11, 15). Four studies used stages from previous research (4, 8 10 & 11), while three studies (6, 7, 14) did not provide information on programme stages, however this information was found online on the programmes' official websites. All studies that did not have stages provided went through this additional investigation. Table 7 provides information on how each study mapped out the stages of the programme of focus.

5.3. Programme evaluation characteristics

Most studies evaluated their programme through pre-experimental methods ($n = 9$; 1, 4, 5, 8, 9, 10, 11, 14 & 16), where a control

Table 5
Terminology used.

Term		Study Coverage
Service learning		12
Civic engagement		8
Active citizenship	Civic education	5
Action civics		4
Citizenship education	Civic participation	3
Change agents / change makers	Service projects / service program	2
Youth empowerment	Youth participatory action research (YPAR)	
Positive youth development	Experiential learning	
Activism	Democratic education	1
Civic action learning projects	Intercultural education	
Civic agency	Participatory learning	
Political engagement	Positive peer group intervention	
Civic development	Project based learning	
Civic efficacy	Sense of community	
Civic literacy programme	Social capital	
Community action service learning	Social emotional learning (SAL)	
Community engagement	Social justice	
Community service program	Transformative education	
Community-based participatory action research principles (CBPAR)	Youth action research-based projects	
	Community-based service learning	

Table 6
Programme information.

	Programme Title	Reference	Programme Calendar	Facilitator	Subject	# Lessons	Estimated Length *	Student Project Focus Examples
1	Chicago Freedom School (CFS) Freedom Fellowship	(McKay-Jackson, 2014)	Summer programme & non-school related club	Programme facilitators			50 weeks	Tolerance and acceptance of others
2	CityWorks	(Kahne et al., 2006)	School term	In-service teachers	US Government		15 weeks	Foliage around school, peer drug and pregnancy prevention
3	Civic Engagement Curriculum (CEC)	(Richards et al., 2015)	School term	Programme facilitators (university students)		15	15 weeks	Community violence
4	Civic Leadership Institute (CLI)	(Lee et al., 2008)	Summer programme	In-service teachers, teacher assistants, and resident assistants			13 weeks	Homelessness, poverty, justice
5	From School to Community (FS2C)	(Akin-Sabuncu et al., 2017)	School term	In-service teachers & programme facilitators	Social Studies			Homelessness, animals' rights, environmental pollution, violence against women
6	Generation Citizen (GC)	(Cohen et al., 2018)	School term	In-service teachers and programme facilitators (university students)		30	15 weeks	School bullying, safety
7	Generation Citizen (GC)	(Ballard et al., 2016)	School term	In-service teachers and programme facilitators (university students)		30	15 weeks	Car safety, school food, bullying, mental health services
8	iEngage Summer Civics Institute	(Blevins et al., 2016)	Summer programme	In-service teachers			5 days	Animal treatment and care, environmental impact of development
9	Metropolitan Issues Programme	(Kim et al., 1996)	School term	In-service teachers				Youth violence, reading skills
	Programme Title	Reference	Programme Calendar	Facilitator	Subject	# Lessons	Estimated Length *	Student Project Focus Examples
10	N/A (Community Action Service-Learning Project)	(Terry, 2000)	School term	Programme facilitators (university students)			21 weeks - 3 years	Building restoration, community clean up, waste management
11	N/A (Service-Learning Project)	(Dull, 2009)	School term	In-service teachers & programme facilitators	Business Administration	9	15 weeks	School garden, public kitchen
12	N/A (Youth Community Service Program)	(Lakin & Mahoney, 2006)	School term	Researcher		21		Animal abuse and neglect, child abuse
13	Positive Peer Group Program	(McLoughlin, 2010)	School term	Programme facilitators			25 weeks	Healthy eating, school appearance
14	Project Citizen (PC)	(Bentahar & O'Brien, 2019)	School term	In-service teachers & programme facilitators	Social Studies, Islamic education			High dropout rates
15	Project Impact	(Miller, 2009)	School term	In-service teachers &		6 + time to complete project	30 weeks	Accessible parking spots and ramps

Table 6 (*continued*)

	Programme Title	Reference	Programme Calendar	Facilitator	Subject	# Lessons	Estimated Length *	Student Project Focus Examples
16	Roots & Shoots	(Johnson et al., 2007)	School based after school club	programme facilitators In-service teachers & programme facilitators				Waste management, animal welfare
17	The Adolescents, Life Contact, & School (AC&S) Project	(Dallago et al., 2010	School term	In-service teachers & programme facilitators			13 weeks	Green spaces, school appearance, school playfields
18	The Working Together Project	(Belansky et al., 2020)	School term	In-service teachers		30 + 28 optional workshops	15 weeks	Mental health, bullying, high risk sexual behaviour, physical inactivity

Note. The estimated length is based on the assumption that 1 semester is 15 weeks, 1 year is 30 weeks.

Table 7
Programme stage information.

	Stages*						Sources
	1	2	3	4	5	6	
Civic Engagement Curriculum (3)	Introduction	Getting informed	Getting involved				(Richards et al., 2015)
Civic Leadership Institute (4)	Thoughtful preparation	Hands-on action	Critical reflection	Thorough evaluation			University of Maryland, 1999
From School to Community (5)	Identify a real problem/issue	Find out more on the problem/ issue	Discus an action plan	Prepare to carry out action plan	Implement action plan	Evaluate experience	(Akin-Sabuncu et al., 2017)
Generation Citizen (6 & 7)	Create a democratic classroom	Choose focus issue	Take action & build relationships	Research & create a plan	Share results		Generation Citizenship (2023)
iEngage Summer Civics Institute (8)	Examine your community	Choose issues	Research an issue and goal	Analyse power	Develop strategies	Take action to affect policy	Levinson (2014)
N/A - Community Action Service-Learning Project (10)	Identify problems and challenges	Recognize and state the problem	Produce alternative solutions	Evaluate alternative solutions	Plan to put solutions into use		Osborn (1963) , Parnes (1967)
N/A- Service-Learning Project (11)	Choose an issue	Research issue	Decide on an action	Take action	Reflect on action	Celebrate the work	Wade (1997)
N/A- Youth Community Service Program (12)	Skill building	Planning	Action				(Lakin & Mahoney, 2006)
Positive Peer Group Program (13)	School needs-analysis	Plan a project	Evaluate the impact of project				(McLoughlin, 2010)
Project Citizen (14)	Identify the problem	Identify solutions	Policy Statement	Action Plan	Project Presentation		(Project Citizen, 2022)
Project Impact (15)	Get acquainted with programme coordinators	Introduction to AmeriCorps	Intro to service opportunities and the concept of a lifetime of service	Explore community needs	Prioritize community needs	Select, design, and implement project	(Miller, 2009)
Roots & Shoots (16)	Knowledge	Compassion	Action				(Johnson et al., 2007)
Working Together Project (18)	Assess	Identify	Make it happen				(Belansky et al., 2020)

Note.
* Programmes were mapped on up to six stages based on study description or, were possible, the programme website.

group was not used. The second most prominent evaluation method was quasi-experimental (*n* = 8; 2, 3, 6, 7, 13, 15, 17 & 18), where a control group was used but random assignment was not. There was one study that used true experimental methods (12), where a control group was used along with random assignment as to who received the programme. The one study that used a 'true'

experimental design (12; Lakin & Mahoney, 2006), randomly assigned classrooms to either receive the programme or not. Although this does not fully allow participants to have an equal chance at receiving or not receiving the control, it does demonstrate the highest level of design rigour across all studies scoped.

A total of 3601 adolescent participants were included in the evaluations. Of these participants, 2264 received the programme and 1337 did not (they were in a control group). Participants receiving the programme per study ranged from 4 participants to 656 participants. Four of these studies did not report gender distribution (1, 4, 9 &17). Of those that did, 514 were males and 593 were females, accounting for 48.9% of the programme population. Of the nine studies that had a control, one study did not report the control size (13), with the other eight studies ranged from 14 participants to 482 participants. Two of these studies did not report gender distribution (2 & 17), and of the six that did (3, 6, 7, 12, 15 & 18), 594 were males and 571 were females, accounting for 87% of the control group population.

Only two studies (3 & 15) provided average age of the population, while three provided estimated age ranged (5, 10 & 12). Due to the lack of age-related information, this was left out of the analysis, and instead grade range of the school setting was explored. School setting was described as either middle school level, high school level, or both. Middle school, or lower secondary school, ranges from grades 5 to 8 (estimated 10–14 years old), while high school, or higher secondary school, ranges from grades 9 to 12 (estimated 14–19 years old). Seven studies (3, 9, 10, 12, 17 & 18) focused on middle school aged participants, five studies (2, 4, 11, 13 & 15) focused solely on high school aged participants, while the remaining six studies (1, 6, 7, 8, 14 & 16) focused on a range of middle school and high school aged participants. One study (16) also included a small group of university aged students, but had distinguished between age groups, so these participants were left out of the analysis.

Thirteen of the studies followed a mixed methods design (1, 2, 4, 6, 7, 8, 9, 12, 14, 15, 16, 17 & 18), which utilised a mixture of qualitative and quantitative data collection methods, two studies (3 & 13) used just quantitative methods, and three of the studies used just qualitative methods (5, 10 & 11). Quantitative methods included a range of survey tools, both already validated tools as well as ones designed specifically for the programme or study. Qualitative methods included interviews, focus groups, open-ended survey questions, observations, field notes, project reports, evaluation forms, and student journals and blogs. An overview of the data extracted regarding the study and participant information can be found in Table 4. A breakdown of data collection usage can be found in Bar Chart 1.

The programme outcomes (quantitative) and topics (qualitative) investigated in the evaluations were studied using qualitative and quantitative methods. Table 8 provides an overview of outcome explored, both qualitatively and quantitatively. Qualitatively, the most common topics explored were experiences of the programme ($n = 9$; 4, 5, 6, 9, 10, 13, 15, 16 & 18), civic engagement / commitment to engagement ($n = 9$; 2, 4, 8, 9, 10, 11, 14, 15 & 17), 21st century skills ($n = 8$; 3, 4, 5, 7, 8, 9, 10 & 18), and knowledge of social issues and how to solve them ($n = 6$; 2, 3, 5, 8, 15 & 17). Quantitatively, the most common topics explored were social and civic responsibility ($n = 10$; 1, 2, 4, 5, 8, 12, 13, 16, 16 & 18), civic engagement / commitment to engagement ($n = 10$; 1, 2, 5, 6, 7, 8, 9, 12, 14 & 16), efficacy and perceived impact to create change ($n = 8$; 1, 6, 7, 8, 12, 15, 16 & 17), and skills development ($n = 8$; 3, 7, 8, 9, 13, 14, 16 & 18). When combined, the tope explored outcomes were civic engagement / commitment to engagement ($n = 19$), skills ($n = 16$), and social and civic responsibility ($n = 15$). Other outcomes explored include behavioural, cognitive, and social competencies, empowerment, and empathy.

6. Discussion & recommendations

SIE, a term used to describe the process of learning how to be socially innovative through the creation of a socially innovative project, has recently gained researchers' attention at the university level (e.g., Alden Rivers et al., 2015; Hazenberg et al., 2019),
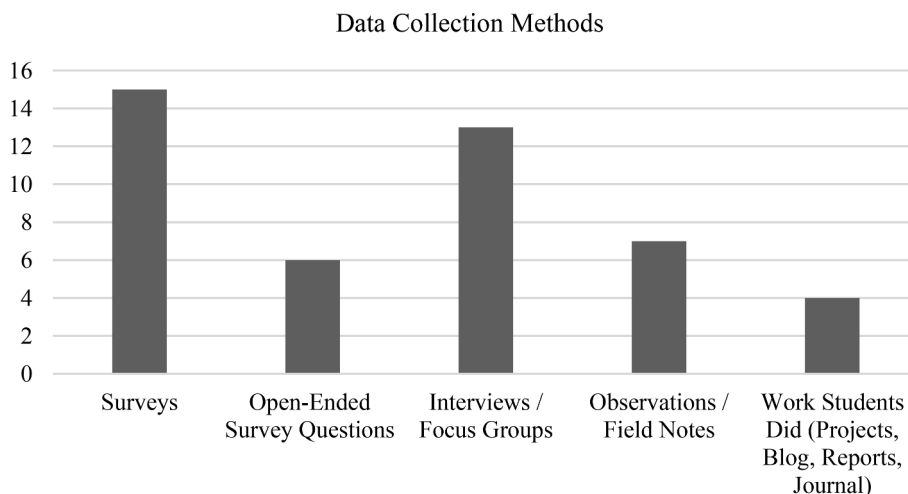
Bar Chart 1. Data collection methods.

Table 8
Topics and outcome dimensions explored via qualitative and quantitative methods.

Topics/Outcomes explored	Qualitative study coverage	Quantitative study coverage	Total
Civic engagement/future civic engagement/commitment to community impact	9	10	19
Skills (e.g., presentation skills, leadership skills, problem solving skills, time management)	8	8	16
Social responsibility/responsible citizenship/civic responsibility	5	10	15
Knowledge (social issues & how to solve them)	6	7	13
Efficacy (perceived impact and accomplishments)	4	8	12
Experiences of programme/programme improvement	9	2	11
Empathy/perspective taking	4	3	7
Community & school bonding/connectedness	3	4	7
Knowledge (social support & community networks)	5	1	6
Life satisfaction and improvement, & future benefits	4	2	6
Youth activism & creation	2	3	5
Empowerment/motivation to make change	2	2	4
Coping strategies/self-discipline		2	2
Attitudes & values	2		2
Resiliency		1	1
Confidence	1		1
Respect	1		1

however, such exploration at the adolescent level is lacking (Kalemaki et al., 2019). This process of teaching young people how to create social change is not a new pedagogy, as there are several other terms such as changemaker, civic education and social entrepreneurship used to describe similar, yet sometimes different educational processes. What distinguished SIE from other pedagogies is its focus on student-directed collaborative decisions, which lead to personal development as well as the creation and implementation of solutions to better society. The focus on adolescent populations has a developmental importance, as the opportunity to work in groups and think creatively to solve social issues is particularly influential as this developmental stage is often marked by increased concerns over social evaluation (Westenberg et al., 2004) and increased self-consciousness (Somerville et al., 2013). Along with this, the act of helping others, finding a purpose, and identifying values becomes a vital indicator of wellbeing for this age group (Bundick et al., 2010, Lerner et al., 2002). It was therefore important to explore the breadth of research that exists on SIE that might use different terminology to describe the process, in order to understand the extent of research available and to create a foundation for future research in this field.

Through the use of a scoping review, the current study provides a comprehensive summary of empirically evaluated programmes that met the criteria of SIE. Main findings encompass patterns and themes that emerged both within the programme characteristics and evaluation methods. These main findings cover themes around location and target populations, programme implementation, programme stages, methodologies used, and evaluation dimensions. We discuss each major finding in turn.

Main findings around location and target populations highlight the inclusiveness of the SIE model. Through this study, SIE emerged as a global educational process, with the research scoped being conducted in six different countries, representing a range of low-to-high income populations, including one developing country. Within this diverse range of country statuses, over 2200 students in grades 5–12 received the SIE programmes, indicating that this educational process is one that is applicable throughout adolescence and is not constrained by language, educational, of economic environments. This cross-country outcome, which is on that gets missed through case studies and location-specific research, is a strength of using scoping reviews to investigate the depth and scope of research in a newly forming field. The field of SIE does not yet have a connected body of research, and as a result, this research is being conducted independently across the globe, as seen in the analysis, hindering out true understanding of how inclusive and transformational the SIE learning pedagogy could be. This scope highlights that SIE can successfully be impactful across countries with varying educational goals and varying levels of economic stability and development, providing support for future research to further delve into what makes SIE so inclusive.

This global inclusiveness can also be applied at the school level and within individual classrooms. While there was minimal information provided on how schools might incorporate SIE into their core curriculum, the format provides opportunities for all students to be able to participate, as the pedagogical process focuses on internal reflection, increased self and global awareness, teamwork, and using creativity to create change. While teachers can incorporate aspects of the SIE learning into other subjects such as maths (e.g., project budgeting), arts (e.g., project posters and advertisements), business and communications (e.g., marketing ideas, community outreach), history (e.g., learning about social issue causes), and science (e.g., research methods), the flexibility within the programme allows for inclusivity at the classroom level. While the programme is student directed in areas such as social issue selection and project design, teachers can adapt their levels of support, the amount of guidance needed, and possible connection to additional subjects based on student needs and capabilities.

The variations that emerged within programme implementation varied in length, number of lessons, facilitator training, subject curriculum, highlight the flexibility of delivering a SIE curriculum. Some programmes were more established, having official websites, staff members, and additional supports and structures. Though the use of a programme through an establishment might provide unique trainings, resources, and more structure, there were also programmes independent of such institutions (e.g., The Service-Learning Project; Dull, 2009), indicating that the delivery of SIE programmes is not confined to having access to such supports. While most evaluated programmes were delivered in schools, SIE can also be delivered outside the school setting such as in summer camps or as

part of a club or youth organisation.

The last main finding around programme characteristics regards the use of process stages to guide student action within the programme. Of the 17 unique programmes explored, 13 mapped out the programme process in a series of stages, ranging from three stages to six steps. Through the comparative mapping of these phases, it became evident that SIE involves a process where the students look at and select a social issue, conduct research on the issue, create a plan to improve the issue, and put that plan to action. Some programmes included a celebration or reflection stage as well, which is often seen as an important component to transition cognition to action (Sykes & Dean, 2013). While stages were not a necessary part of the programme's delivery, and were not included in four programmes, they do provide structure for the students' work and for the teachers' support.

The main findings around programme characteristics highlight that the delivery of an SIE programme is not confined by borders, economic status, adolescent stage, available supports, classroom curriculum, or established resources. Schools and youth organisations vary in the amount of supports and resources they have available, but this should not deter them from providing such services to students. Students of all backgrounds, when given the opportunity, can create social change projects and can benefit from SIE.

A key finding that emerged around methodologies used highlights the diverse range of analyses researchers took when evaluating their programmes. The scope included both pre-experimental to true-experimental evaluations, with over half of the studies utilizing a control sample and a mixed-methods design. Although a scoping review does not involve an analysis of quality, utilizing control samples and mixed methods allows more rigorous analysis of data as this allows for the exploration of difference between groups identified in the quantitative data (Creamer, 2018). While the quantitative data collected included a wide range of surveys, both new and previously validated, qualitative data included interviews, focus groups, observations, student work, and open-ended survey questions. These data were extensive, and the progression of this field could benefit from a more meticulous analysis of the data.

From the analysis of evaluation dimensions in the scoped studies, civic engagement and commitment, along with social and civic responsibility were among the top outcomes explored. It is evident that the researchers believe that SIE may impact participants' levels of civic and social engagement, commitment, and responsibility, with the assumption that programme involvement may increase these outcomes in young people. While having active and engaged young people is a positive outcome, this also highlights an area for future research. Considering, social issues student may focus on can be quite grim or appear unsolvable at times, such as poverty and global warming, it begs to question at what point may we be putting too much responsibility on students? At what point may students become overwhelmed if they cannot create the change they hope to see? This increased responsibility on adolescents to be the future solvers of our world's issues is not isolated to SIE, however while other civic-related pedagogies do not necessarily include action, action is a condition of SIE. Through action students take on valued roles, which can impact their development of purpose (Benson et al., 1998; Malin et al., 2013) while they realise that they can making meaningful contributions to society (Lerner et al., 2002). This provides an opportunity for future research to explore how outcomes associated to students' efficacies around their ability to create social change may develop through action, and possibly alleviate the remorse of having too much responsibility around global issues. If students believe that they can make a difference, this may create a protective barrier around the increased responsibilities they might be experiencing to solve our world's issues.

Last, given the broad range of research spanning a range of global and local variations, this scoping review highlights the importance of connecting researchers within the field and bridging the research that is currently being done in isolation. Due to ambiguity within terminology, there is a lack of community within the field of researchers exploring the impact of social innovation projects within the adolescent population. There are also methodological implications emerging from this scoping review, including the utility of mixed methods to evaluate programmes, and the lack of true experiments currently in the field. Furthermore, implications for practice include that aiming programmes towards certain outcomes in combination with a feasible social change project can impact adolescents' longer term development. To gain the most from this information, there is a need for researchers to come together and utilise their own expertise in combination with each other, to better explore and understand how we can prepare young people to face the global social challenges that lie ahead in their adult lives.

6.1. Limitations

This review has limitations that should be considered when interpreting the results. First, this study looked specifically at research with adolescent populations. When scoping titles and abstracts, it appeared that there was a large base of SIE-like programmes at university levels and higher. Beneficial information on programme characteristics and benefits could be extracted by looking at a larger population. Second, although extensive knowledge was extracted from each article, as with any scoping review, there is no quality assessment of scoped studies (Arksey & O'Malley, 2005). Third, this research was limited by language as well as peer-reviewed published research, which could lead to the omission of research beneficial to the research questions. Nevertheless, scoping reviews are used to provide a preliminary evaluation of the potential size and scale of available research on specific topics or fields of research, particularly those that have not yet been extensively reviewed (Grant & Booth, 2009), which is the case with SIE. This scoping review allowed us to highlight research that can help the progression of SIE as an educational process.

7. Conclusion

SIE is a promising field but is hindered by a lack of empirical research. Through this scoping review, the field of SIE programme research for adolescent populations has been clarified, combining studies from a range of disciplines (e.g., civic education, action civics), as seen in the 18 scoped studies. The 18 scoped studies provide a foundation for the developing field of SIE, while also highlighting the need create a more comprehensive understanding of SIE by unifying a field that is currently composed of independent

disciplines. Each of the 17 scoped programmes provided students with an opportunity to direct and create unique solutions to social issues in their community. This process in return provided a range of positive developmental outcomes related to skill and knowledge acquisition, purpose development and psychological flourishing. This review sets the stage for more rigorous research to help develop the SIE field and better understand the benefits of SIE for adolescent development.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper

Supplementary materials

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