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Children's experiences of the journey between home and school: A qualitative synthesis using meta-ethnography

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ABSTRACT

This paper uses meta-ethnography to synthesise qualitative and ethnographic studies of children's (aged 5–13) experiences of socio-material environments on their school journey. Most of the 21 papers (18 studies) identified from the systematic search were from high-income countries and used self-report qualitative methods. Our synthesis shows children can feel vulnerable, but also negotiate journeys and manage risks, enjoy shared and solitary mobility, and explore their material environments. School journeys offer children a place to learn and develop agency within their socio-material environments. Attending to these wider benefits of school journeys, alongside supporting children to develop active modes attuned to the risks associated with these journeys, could improve the reach and impact of active school travel initiatives.

1. Introduction

1.1. Background

Active school travel (AST) such as walking, cycling, scooting or skateboarding to and from school is associated with increased overall physical activity and fitness in children (Cooper et al., 2006; Roth et al., 2012). Increased AST has the potential to contribute to public health and provide local environmental benefits by reducing congestion and CO_2 emission risks posed by private cars around schools (Collins and Kearns, 2001; McConnell et al., 2010). However, AST has been declining since the 1970s in high income countries in particular (Rothman et al., 2018).

Previous systematic reviews have focused on the effectiveness and equity of both environmental and behavioural AST interventions as this literature has grown and developed since the early 2000s (Chillón et al., 2011; Schönbach et al., 2019; Larouche et al., 2018; Lorenc et al., 2008; Pang et al., 2017). Larouche et al.'s (2018) update of Chillón et al.'s (2011) review of AST intervention evaluations found most evaluations (n = 30) published since 2011 reported 'trivial-to-small' positive effect sizes on AST and physical activity but found that these evaluations had limitations in their study design. Another recent systematic review of thirty-seven quantitative observational and descriptive studies on correlates of AST in children aged 5–13 found consistent positive associations between walkability and safety perceptions and AST (Ikeda et al., 2018). It is hypothesised that more efforts to improve neighbourhood walkability and street connectivity around schools will help increase AST (Panter et al., 2008; Pooley et al., 2011; Oliver et al., 2015; Smith et al., 2017).

Key 'barriers' to AST such as dangerous built environments, 'stranger danger' and traffic are often reported by parents (Aranda-Balboa et al., 2020). Some scholars suggest that parental views regarding AST have a greater influence on children's travel modes than children's perspectives (Ahern et al., 2017; Smith et al., 2019; Wilson et al., 2018), but others show that children's perceptions and wishes are important in household decision making regarding school journeys (Pooley et al., 2010). A systematic synthesis of parents' and children's views on walking and cycling in the UK showed children's views to be much more positive than parents' and suggested interventions could encourage children and

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young people to critically challenge social norms that encourage their parents to chauffeur them (Lorenc et al., 2008). Learning from children's experiences and emphasising aspects of journeys important to children could help increase AST (Torres et al., 2019).

More qualitative work *with* children and young people has been published in the last decade (Gautam et al., 2021; Kullman and Palludan, 2011; Wilson et al., 2019) and recent active travel projects across the globe are engaging children in co-designing their school streets (Sustrans, 2020; Varma 2021). Several authors have called for more child-centred approaches to studying journeys to/from school which can offer a means to voice children's experiences and recognise their agency in constructing a sense of place (Murray, 2009; Wilson et al., 2019). This call reflects the shift in thinking in the 'sociology of childhood' (James and James, 2004) regarding children's rights to participation in research, whereby children are understood as knowledgeable experts on their own experiences, and have specific contributions to make (Beazley et al., 2009; Uprichard, 2008; Wilson et al., 2019). A synthesis of qualitative and ethnographic research about children's experiences of their school journeys is thus timely in putting children's voices centre stage. We conducted a qualitative systematic review using meta-ethnography as a qualitative synthesis method. Such a review can provide a child-centred comprehensive account of current understandings of how the environment on the school journey influences mode of travel to school. Such a review can also uniquely show how physical environmental factors identified as affecting children's experiences of school travel are interwoven with social factors, and how socio-material environments are engaged with, negotiated and explored (See Fusco et al., 2013; O'Connor and Brown, 2013).

1.2. Meta-ethnography

Meta-ethnography is a rigorous procedure developed by Noblit and Hare (1988) for synthesising ethnographic studies in response to the growth in evaluative qualitative research in the field of education and a desire to meaningfully use these studies to aid practice. The aim is "to go beyond single accounts to reveal the analogies between accounts", reduce "accounts whilst preserving the sense of the account through the selection of key metaphors", and thus derive "substantive interpretations" about what a set of studies can say about a topic (Noblit and Hare, 1988:9–13). Meta-ethnography differs from the previous synthesis method carried out on children's views of walking and cycling (Lorenc et al., 2008). Lorenc et al. (2008) used an aggregative framework synthesis featuring an a-priori coding frame that focused specifically on comparing whether factors affecting walking and cycling had been addressed by evaluated interventions.

1.3. Study aims

This study uses meta-ethnography to synthesise ethnographic and qualitative research on children's experiences of socio-material environments on the school journey. It aims to build an interpretation of these experiences, show how and to what extent this phenomenon of interest is understood, and highlight what different approaches and perspectives could aid further understanding.

2. Methods

This study comprised three stages: systematic searches of the literature, quality appraisal and qualitative synthesis using meta-ethnography. The protocol was published on Open Science Framework (https://osf.io/gq83y) on September 16, 2020, and we utilise the eMerge framework for reporting meta-ethnography (France et al., 2019).

2.1. Systematic search

The comprehensive search strategy was developed using the SPIDER (Sample, Phenomenon of Interest, Design, Evaluation, Research type) tool (*see* Box 1), specifically used for qualitative systematic reviews (Cooke et al., 2012). Search terms were developed through a series of scoping searches in MEDLINE. Final searches were conducted on August 10, 2020 and limited to a time-period of 2000-present using the search terms and relevant MeSH headings, and were modified as appropriate for five different databases searched: Web of Science Core Collections, MEDLINE, CINAHL, SPORTDiscuss, and Transport Research International Documentation (TRID). Studies were selected if they met the inclusion criteria in Box 2. We conducted supplementary backward citation searches on all studies from the database searches that met the

Box 1
Final search strategy

SPIDER tool		Search terms (Keywords, titles, abstracts)
Sample	Children (aged 5–13)	child* OR kid* OR pupil* OR boy* OR girl* OR famil* OR teen* OR adolescen* OR "young person" OR "young people"
Phenomenon of **I**nterest	School travel environments	school* NEAR 3 (travel* or journ*) OR (sustain* or activ*) NEAR 3 (travel* or transport*) OR (bicycl* or cycl* or bik* or walk* or pedestrian* or bus or run or commute or scooter or scooting or "car-shar*" or car) NEAR 3 (school*) OR walkabilit* or "self-explaining road" or "self explaining road" or "traffic-calming"
Design	Interviews, focus groups or other qualitative method	("semi-structured" or semistructured or unstructured or informal or "in-depth" or indepth or "face-to-face" or structured or guide or open-ended) NEAR 3 (interview* or discussion*) OR "focus group" or "focus groups" or phenomenolog* or "grounded theory" or fieldwork or "field work" or "key informant" or photovoice or "photo voice" or "photo-elicitation" or "participatory photography" or "participatory mapping" or "case study" or "case studies" or "discourse*" or "narrative*"
Evaluation (outcomes)	Experiences	view* OR experienc* OR attitude* OR opinion* OR narrativ* OR understand* OR perce* OR account*
Research Type	Qualitative	Qualitative Or ethnograph*
		[S AND P of I] AND [D OR E OR R]

Box 2
Selection Criteria

Inclusion criteria:

- Report child participants aged 5-13 years-old (where 80% or more of the study's sample age range is within this age, we will include them).
- Report children's experiences, views, perceptions, accounts or attitudes of school journeys and their environments (including process evaluation of interventions where experiences of usual school journeys and their environments are reported)
- Use a qualitative research method and presents a qualitative analysis
- Contain an abstract
- Published in a peer reviewed journal
- Written in English language
- Published from 2000 onwards

Exclusion criteria:

- No primary or secondary aim to explore school travel
- Experiences of children's general mobility only (outside of the school journey)
- Experiences of caregivers only
- Experiences of policy makers or practitioners
- Reports of evaluations of individual behaviour-change interventions
- Reports of environmental intervention evaluations that do not report experiences of school journey environments
- Mixed methods studies where the primary study reported is not qualitative
- No primary qualitative data and analysis
- Systematic reviews

inclusion criteria (Briscoe et al., 2020).

The titles and abstracts of all records were screened using Covidence software by SM and a 10% random subsample were independently screened by EL. Any disagreements were discussed by the two reviewers and referred to a third co-author if agreement could not be reached. Full texts were retrieved and screened by SM (100%) and EL (10%) using the same criteria.

2.2. Quality appraisal

EL and SM independently conducted quality appraisal aided partly by the Critical Appraisal Skills Programme (CASP) tool to assess methodological rigour (CASP, 2018), including plausibility of research design, refutation of findings and contribution to existing literatures (Baxter and Eyles, 1997). We did not use CASP to create numerical scores and we did not rely entirely on the checklist nor only on the rigour of reporting of methods. Instead, following Malpass et al. (2009), Pollard et al. (2020) and Young et al. (2017), we used the CASP tool to help us prioritise papers that were methodologically rigorous and provided detailed data and rich conceptual analysis for the synthesis stage of the review. Our aim was not to exclude papers and we recognise critiques of methodological checklists for qualitative research, including that reporting rigour does not necessarily reflect the rigour of the methods and analysis applied (Buus and Perron, 2020; Dossett et al., 2021; Levitt et al., 2018).

Papers were categorised as 'Key' (a paper which was conceptually rich or provided detailed data and analysis of children's experiences and could potentially make an important contribution to the synthesis), 'Satisfactory' (a paper which had satisfactory but thin data and analysis or only devoted a small proportion of the results section to children's experiences) or 'Fatally flawed' (methodologically flawed or inappropriate) (Pollard et al., 2020). Any discrepancies were discussed by EL, TP and SM. Key papers were prioritised in the synthesis due to their richness and relevance, as described below.

2.3. Study characteristics

Descriptive study characteristics were extracted by SM and checked by EL (See Table 1). We extracted information on study aim, type and number of participants, country, context (e.g. urban, rural, coastal), methodology or theoretical approach used, methods of data collection, and analysis method (in line with Flemming et al., 2015; Pollard et al., 2020).

2.4. Meta-ethnography synthesis

We drew on the processes outlined by Noblit and Hare (1988), Britten et al. (2002) and Malpass et al. (2009) for synthesising the selected studies. This involved reading included studies; determining how the studies were related to each other through identifying second order constructs; translating studies into one another through developing third order constructs; and synthesising translations.

First, SM, EL and TP closely read all included papers to develop an understanding of each study's context and content. Next, LF, EL and SM independently identified second order constructs (themes or concepts developed by the original authors based on their interpretations of the primary data) from a subsample of five key papers to assess data abstraction interrater reliability. LF, SM, EL, and TP discussed the differences and discrepancies in approach and SM and EL then independently re-read the studies and identified second order constructs, organised using Microsoft Excel spreadsheets. The two independent sets of second order constructs were discussed, compared, and contrasted, and SM developed the final set of constructs to be translated. SM translated the studies into each other by sorting the second order constructs into conceptual categories via the constant comparison method (Toye et al., 2014). Key papers were translated first, followed by the satisfactory papers. Third order constructs (interpretations of the synthesis team) were developed iteratively, with each labelled and re-labelled following additional comparison and concise descriptions

Table 1
Details of studies included in synthesis.

Author	No. of participants	Participants	Age of children (years)	Location (country level)	Context	Methodology/ theoretical lens	Data collection methods	Analysis method
Key Papers								
Ahlport et al. (2008)	37 children; 37 parents	Children and parents	9–12	USA	Urban (implicit)	Social, ecological and political economy of health	Focus groups	Not explicit-thematic
Fusco et al. (2012) and Fusco et al. (2013)	41	Children	9–12	Canada	Urban	Photovoice Child-centred	Photovoice interviews Semi-structured interviews	Thematic analysis
Kirby and Inchley (2009)	66	Children	10–13	Scotland	Rural and semi-rural	Qualitative approach- linked to project evaluation	Focus groups	Thematic analysis
Kullman (2010) & Kullman (2014)	23	Children (and parents in passing)	7–12	Finland	Urban	Winnicott; transitional thinking; ethnographic	observations, participatory picture-making, group interviews	Not explicit-ethnographic
Kullman & Palludan (2011) [a]	5	Children	5–7	Denmark	suburban	Rhythmanalysis	Ethnography	Ethnographic-not explicit
Meyer and Astor (2002)	377 children; 106 parents	Children and parents	9–14	USA	Urban (deprived)	Ecological psychology	Semi-structured interviews	Thematic analysis
Mitchell et al. (2007)	136	Children	6–11	New Zealand	Urban	Child-centred	Writing activity; Photovoice	Not explicit-thematic
Muhati-Nyakundi (2019)	45	Children	5–7	Kenya	Urban	participatory multimethod; resilience perspective	Drawings and narratives, focus group discussions and conversational interviews	Thematic analysis
Race et al. (2017)	42	Children	9–13	Canada	Urban and suburban	Qualitative approach	Focus groups	Framework analysis - a priori coding
Wilson et al. (2019)	123	Children	10–12	Canada	Urban and suburban	Child-centred; participatory	Participatory mapping- group discussions and mapping exercises	Thematic analysis
Satisfactory papers								
Barker (2011)	28 children; 21 mothers; 4 fathers	Children and parents	5-11 (not specific)	England	Rural and suburban (affluent and deprived)	Gendered carescapes	Interviews, photographs and diaries	Not explicit - thematic
Egli et al. (2019)	1102	Children	8–13	New Zealand	Urban	Online interactive mapping survey	Open-ended Questionnaire	Content analysis
Kearns and Collins (2003)	Not reported	Children and parents	5-11 (not specific)	New Zealand	Suburban	Qualitative approach- WSB evaluation	Participant observation; interviews; survey	Not explicit - thematic
Lee and Tudor-Locke (2005)	61	Children	11–12	USA	Suburban	Qualitative approach	Focus groups	Thematic analysis
Murray (2009)	25 children; 18 mothers	Children and parents	8–14	England	Urban and suburban	Child-centred approach to risk	Self-filmed video elicitation (with children); in-depth interviews (with mothers)	Not explicit - thematic
Neuwelt and Kearns (2006)	45	Children, parents, WSB coordinators, school staff	5–10	New Zealand	Urban and suburban	Qualitative approach- WSB evaluation	Informal go-along interviews and observation with children; semi-structured interviews with adults	Thematic analysis
Romero (2010) & Romero (2015)	178 (54 in focus groups)	Children	9–11	Australia	Urban	Interpretive paradigm Child-centred	Written questionnaires; focus groups Written questionnaire; a drawing activity; focus group	Thematic analysis
Ross (2007)	90 children; 22 parents	Children and parents	10–12	Scotland	Urban and rural	Child-centred	self-directed photography; interviews	Not explicit-thematic

[a] Combines two ethnographies, one of which is also reported in Kullman (2010, 2014).

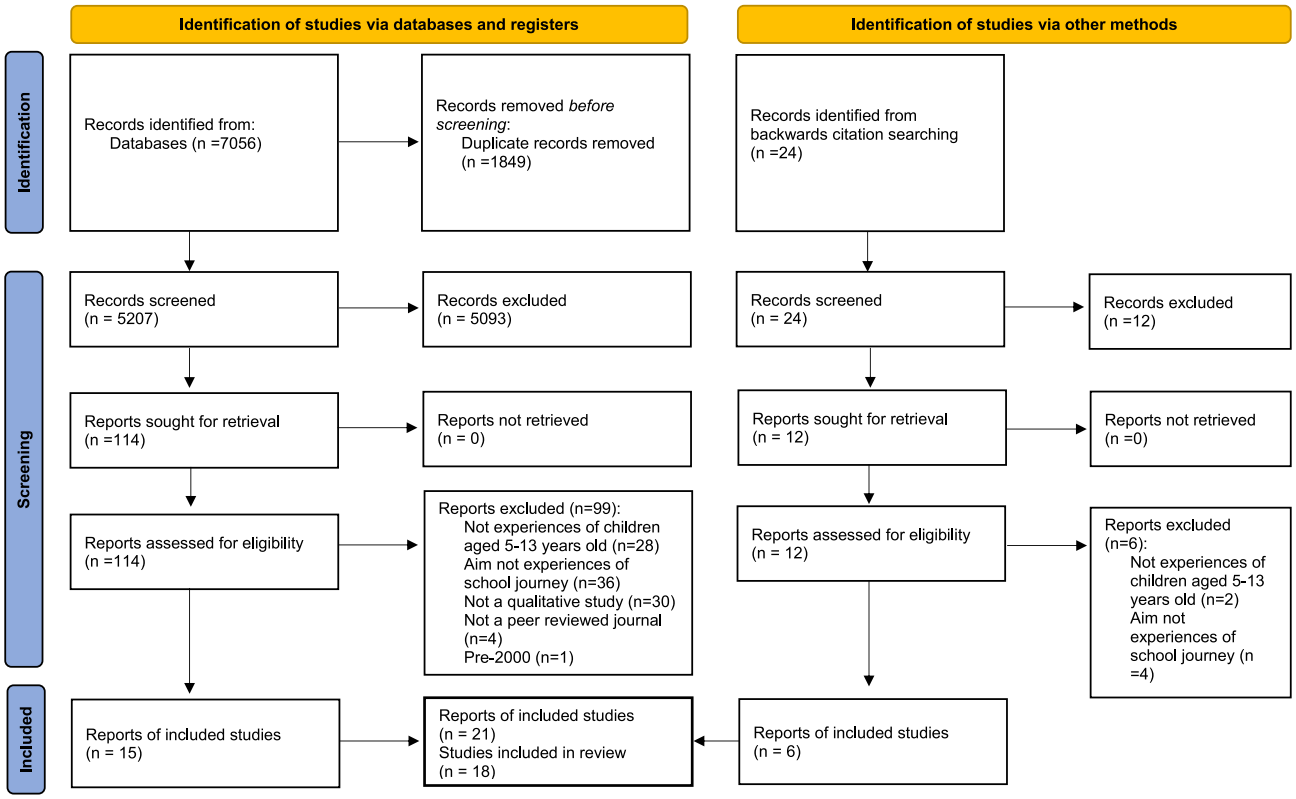

Fig. 1. PRISMA 2020 Flow Diagram of study selection process
Edited From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021; 372:n71. https://doi.org/10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/.

written. SM, TP, EL and LF discussed and edited each conceptual category before considering a reciprocal synthesis, where findings are directly comparable; a refutational synthesis, when findings contradict each other; or a '*line of argument*', which Thorne et al. (2004:1349) say recognizes "that often people study different aspects of phenomena and that it might be possible to think through this to offer a fuller account of the phenomenon by arranging the studies' metaphors in some order … to construct an argument about what the set of ethnographies say".

3. Findings

3.1. Search outcome, quality appraisal and study characteristics

The searches yielded 5207 potentially relevant papers and resulted in a final set of 21 included papers relating to 18 studies (Fig. 1). Twelve papers were categorised as 'Key', nine as 'Satisfactory' and none as 'Fatally flawed'.

All 21 papers were taken forward to the synthesis stage. Most studies were conducted in urban and sub-urban areas of high income predominantly English-speaking countries (Table 1). Fourteen utilised qualitative methods based on recall of experience (interviews, focus groups), nine used creative visual methods (participant photography, drawing or film), and four studies used participant observation alongside other methods, with two using participant observation for in-depth ethnographic work.

3.2. The synthesis process

A total of 117 second order constructs were extracted. Inevitably, due to the variation in the approaches employed in the original studies, some constructs were more conceptual or descriptive than others. Following Toye et al. (2014), we noted some 'untranslatable' second order constructs (n = 8) where no clear concept relating to the research question was articulated and thus, they were excluded from further analysis. As a consequence, 109 second order constructs were carried through to the final stage of analysis. All authors agreed the translations produced a synthesis in which 12 third-order constructs were grouped together into four higher-order themes which interact to produce the 'line of argument' presented below (Table 2).

3.3. The synthesis

This section first outlines our 'line of argument' before detailing the third order constructs which contribute to it. Where quotations are used, we differentiate between children (italicised) and authors (not italicised). Table 2 shows which studies contribute to which constructs.

3.3.1. Line of argument: the school journey as a process of learning and development

The 12 third order constructs were synthesised into four higher-order themes which interact to contribute to an overall synthesis: that the journey between home and school can offer children a process of learning and a means of developing agency within their local environments. The synthesis shows that children often feel vulnerable on the journey to school, but also that such vulnerabilities can often be mitigated as children develop risk management skills and care practices, which play a role in developing a sense of autonomy, independence and place. When children are able to manage their risk landscapes, they can, in many contexts, enjoy moving and engaging with others or in solitary contemplation, and enjoy exploring material and natural environments.

3.3.2. Feeling vulnerable

We found that a sense of vulnerability featured as a prominent experience of children on their school journeys.

Table 2
Contributions to third order constructs and 'line of argument'.

Third-order Constructs	Feeling fearful and frustrated with traffic	Feeling at risk within the material environment	Feelings vulnerable from other humans and non-human animals	Learning to attune to the material environment	Avoiding areas and harms	Negotiating journeys with parents	Creating a sense of safety through moving together	Enjoying conversation, activities and sociality with other human and non-human animals	Reflecting and contemplating when walking	Playing and exploring routes and the material environment	Engaging with natural forms	Chauffeuring limited exploration and spontaneity
Contribution to 'Line of Argument'	Feeling vulnerable			Negotiating, managing risks and caring on school journeys				Enjoying shared and solitary mobility		Exploring environments		
Key Papers												
Ahlport et al. (2008)	x	x	x	x		x	x				x	
Fusco et al. (2012, 2013)	x	x	x	x			x	x	x	x	x	x
Kirby and Inchley (2009)	x	x				x		x			x	
Kullman (2010, 2014)	x			x		x	x	x		x		
Kullman & Palludan* (2011)	x			x		x					x	
Meyer and Astor (2002)			x		x	x						
Mitchell et al. (2007)	x	x				x		x			x	
Muhati-Nyakundi (2019)	x	x	x	x	x							
Race et al. (2017)	x		x	x	x	x	x	x				
Wilson et al. (2019)	x		x	x	x	x	x	x		x	x	x
Satisfactory papers												
Barker (2011)								x				
Egli et al. (2019)	x	x						x	x	x	x	x
Kearns and Collins (2003)						x	x	x				
Lee and Tudor-Locke (2005)	x		x	x							x	
Murray (2009)		x	x	x	x							
Neuwelt and Kearns (2006)						x		x			x	
Romero (2010, 2015)						x	x	x	x	x	x	x
Ross (2007)	x			x			x	x	x	x	x	

3.3.2.1. Disliking and feeling fearful of traffic. Authors across multiple papers reported children disliking and experiencing difficulties crossing busy roads and discussing fears of traffic accidents (these appeared to echo parental concerns where studies included parents as well). Busy junctions and congestion around schools were perceived as hazardous and drop-off zones were experienced by children as disorganised, chaotic and dangerous (Wilson et al., 2019; Ahlport et al., 2008). Mitchell et al. (2007) and others (Ross, 2007; Muhati-Nyakundi, 2019; Fusco et al., 2012, 2013) reported how some children's embodied experience of being small in size affected how they interacted with traffic and parked cars: for instance, one girl reported being too small to see over cars and had to take risks sticking her head out behind parked cars to cross the road. Children across multiple papers experienced a sense of drivers not "seeing them" (Muhati-Nyakundi, 2019) or driving "*very crazy*" (Egli et al., 2019). Some papers found younger children (Egli et al., 2019), car-chauffeured children (Fusco et al., 2012, 2013), and children in a high-traffic area (where the school offered educational interventions to combat this) (Mitchell et al., 2007) expressed elevated fears of traffic.

3.3.2.2. Feeling at risk within the material environment. The possibility of injury connected to the material environment was prominent in children's narratives across the studies. For example, discontinuous or lack of pavements could mean that children who walked had to cross roads frequently (Ahlport et al., 2008). Multiple authors (Ahlport et al., 2008; Kirby and Inchley, 2009; Mitchell et al., 2007; Muhati-Nyakundi, 2019; Murray, 2009) across different contexts echoed issues with unsuitable and uneven footpaths and a lack of cycle paths. Wilson et al. (2019) found Canadian suburban school children felt at risk because of a lack of street lighting and, in winter, icy pavements. The worst challenges of this kind were in Nairobi in Kenya, where Muhati-Nyakundi (2019) reported children enduring long winding muddy footpaths through slum settlements which were frequently flooded. Ahlport et al. (2008) and Mitchell et al. (2007) found children experienced spatial marginalisation and safety issues when cycling to school on roads in suburban USA and in shared bus and bike lanes in urban areas of Auckland, New Zealand.

> Girl 1: *"… the roads are too wide and the footpaths are like this small [indicates with hands]. There's bike lanes on a couple of roads around here, but you can't ride in those because your parents won't let you, because a car might swerve and hit you"*
>
> Girl 2: *"And the bike lanes- they have buses travelling in them!"*

Empty or deteriorating houses also negatively impacted on children's experiences of their journeys. This appeared to be reported more often in highly deprived areas (Meyer and Astor, 2002) and some suburban areas where some children reported not being allowed to pass by buildings that were said to be housing "*dangerous*" people (Wilson et al., 2019:124). Fusco et al. (2013) showed how children from deprived areas in a Canadian city witnessed more vandalism and graffiti on their routes to school.

In addition to dangers, there were issues that were off-putting, disliked or caused embarrassment. Murray (2009) termed these 'mundane' and 'everyday' risks, which included litter, broken glass, cigarette butts or people smoking, dog excrement, chewing gum, pollution and noise from cars.

3.3.2.3. Feeling vulnerable to other human and non-human animals. Fears of encountering violence from *'bad people'* on the school journey were raised by several authors in differing contexts, from slum settlements in a lower income country, to deprived urban and relatively affluent suburban areas in higher income countries. Children expressed fears of fights, bullies, unfamiliar people, gangs, rape, and being kidnapped or murdered. Some authors found these fears to be related to children's experiences of for example, *'creepy'* people (Wilson et al., 2019) or older pupils blocking roads and chasing them (Kirby and Inchley, 2009). Two authors interpreted fears in relation to social constructions of risky public spaces, parents' perceptions of safety and media representations regarding kidnappings and violence (Murray, 2009; Fusco et al., 2013). Kirby and Inchley (2009) explained that many children using car travel expressed such fears, but for children using active modes stranger danger was not a prominent deterrent and instead became part of a risk landscape to be managed. Those living in the more deprived areas (Meyer and Astor, 2002) and the Kenyan slum context (Muhati-Nyakundi, 2019) tended to report actually witnessing more violence, in the form of gang violence, fights or physical assault from bullies/dangerous men or shootings, and in such contexts many children had no option but to travel actively. In addition to the presence of unfamiliar or people perceived as dangerous, the lack of familiar, friendly people also contributed to a sense of vulnerability. For example, children felt a sense of vulnerability when crossing guards were lacking in high traffic areas in suburban and urban Toronto (Wilson et al., 2019).

Interactions with non-human animals, primarily dogs, produced a sense of fear in some children, and often appeared to affect routes taken (Egli et al., 2019; Wilson et al., 2019; Muhati-Nyakundi, 2019). For instance, children in Muhati-Nyakundi's (2019:5) study reported dogs as "scary, fierce, dangerous and capable of 'eating' them", and a child from Wilson's (2019:123) study explained:

> *"There's like dogs there and they've bitten people before so I don't like taking that way"*

Murray (2009) discussed two children who recalled a stray cat attacking their pet dog, which led them to avoid walking down the street where it occurred. The perceived vulnerability of children was therefore linked to anticipated and known negative experiences of other humans *and* non-human animals.

3.3.3. Negotiating, managing risks and caring on school journeys

Although some papers found that children reported not being allowed to travel actively due to the perceived dangers from traffic and strangers, many studies discussed how children travelling actively innovatively negotiated and managed risks through interactions with socio-material environments. Kullman (2014:2868) importantly highlights how children and parents become part of "collectives of care" as "active participants in moments of urban caring". We suggest that this notion of shared agency within the urban environment is useful for understanding how children are engaging in a continual learning process on their school journeys, negotiating both material and social environments.

3.3.3.1. Learning to attune to the material environment. Roads became part of the everyday risk landscape for many children who travelled actively to/from school. The process of learning to negotiate these everyday risks was most prominent in studies that used participant observation or participant photography and mapping (Kullman, 2010, 2014; Muhati-Nyakundi, 2019; Murray, 2009; Ross, 2007). Murray (2009:481) showed how children in an English city assessed risks of specific roads (particularly those with high-speed traffic), used different degrees of caution when crossing, and used these assessments to "map out" their journeys to school:

> *"This is the road I absolutely hate … This road is scary but the other one we come to is really quite scary. You just have to wait till all the cars go"*

Fusco et al. (2012) and Wilson et al. (2019) (both studies based in suburban and urban contexts in Canada) also discussed how children used road signs and symbols along their routes to assist with risk management and orientation. Kullman (2014) further developed this concept by analysing how children's continual negotiations with the urban environment of Helsinki were connected to numerous zebra (pedestrian) crossings. Kullman (2014:2875) states:

> "Instead of shying away from their fragile entanglements with the zebra crossing of Helsinki … children and parents were constantly thinking about how best to live among them and create better attunements between the diversity of urban bodies".

Negotiations involved "complicated rhythms of waiting and moving, observing and interacting" as well as cautiously monitoring the zebra crossing with friends and parents (Kullman, 2014:2874). These children's experience of zebra crossings varied from one crossing to another and as such they were constantly refining their skills in negotiating them and in the process of doing so, were contributing to a "wider urban good" (Kullman, 2014:2876). These attunements raised by Kullman were seen in others' analyses. For example, on the rural roads of Scotland, key objects to be negotiated were "trouble spots" including "the *'bad corner'* where *'you have to be quick when you cross'*" (Ross, 2007:382). Similarly, in the context of an urban Kenyan slum, children moved through heavily trafficked roads: authors described how children followed road-crossing timings of other "*friendlier*" strangers who had "mastered" the rhythmic movements required, sought out eye contact for reassurance and physically held others' hands or clothing (Muhati-Nyakundi, 2019:6).

3.3.3.2. Avoiding areas and harms. Those children who were at risk of harms, particularly from others (gangs, bullies, *'bad people'*), developed simple but strategic means of avoiding or minimising such harms: children learnt where such risks were through experiences and avoided them by altering their routes or pace (Meyer and Astor, 2002; Muhati-Nyakundi, 2019; Murray, 2009; Race et al., 2017; Wilson et al., 2019). For example, two boys in Meyer and Astor (2002) study living and travelling to school in a deprived high crime urban area in the USA explained their strategies for avoiding gangs and feeling safe:

> *"Sometimes I go down different blocks I try to walk past them (the gang members) without them seeing."*

> *"I just run to school … and stay right on the main road."*

3.3.3.3. Negotiating journeys with parents/guardians. Multiple studies noted children reporting their parents expressing anxiety about safety and concerns about children's abilities to be responsible travelling alone, and that these anxieties, as well as constrained family schedules, restricted their travel mode choice (Kirby and Inchley, 2009; Mitchell et al., 2007; Lee and Tudor-Locke, 2005). Some children expressed desires for their parents to allow them to travel actively alone (Wilson et al., 2019) or with friends. Others felt safer in the car and wanted parents to chauffeur (drive them by car) them, especially after reports of kidnapping or violence (Lee and Tudor-Locke, 2005; Meyer and Astor, 2002), or to walk with them for safety (Romero, 2010). Yet, car chauffeuring was often not possible for those living in the high crime urban neighbourhoods in the USA (Meyer and Astor, 2002). Some children expressed having a choice on how they travelled to school (Mitchell et al., 2007). Older children, primarily those in secondary school, more often exerted decision-making power over their journey to school, or jointly negotiated decisions with parents (Kirby and Inchley, 2009). Yet, Kullman and Palludan (2011) showed how younger children (age 6) in Copenhagen also had a say in travel mode decisions. These children engaged in a relational process of mimicking the rhythms of parents when practicing journeys to school before 'graduating' (as Kearns and Collins call it) to more independent travel (Kullman and Palludan, 2011). Kullman (2010: 835) reported some children in Helsinki showing parents how responsible they were after a process of 'mobility training':

> 'Kaarlo [an 8 year-old child] received his 'school journey licence', as his father calls it, by performing the new travel skills for his mother, who followed a few steps behind'.

Furthermore, an evaluation of a walking school bus in Auckland found that children used health and exercise as a rationale for persuading their parents to allow them to walk independently (Neuwelt and Kearns, 2006: 110).

3.3.3.4. Creating a sense of safety through moving together. Many studies reported children feeling safer when walking with a parent (Ahlport et al., 2008; Romero, 2010), friends, siblings (Kullman, 2010, 2014) or being surrounded by familiar friendly faces (Egli et al., 2019; Wilson et al., 2019), including crossing guards. Ross (2007: 384) identified a gradual process of creating "competence through the care and supervision" of each other, enabling children to produce "their own routines and possibilities for social and environmental engagement". Other studies showed how children enacted agency as they made arrangements for meeting other children on their routes to school (Kullman, 2010, 2014; Race et al., 2017; Wilson et al., 2019). Kullman (2014) further detailed how the children in his ethnography travelled in "composites", looking after each other and the urban landscape, providing and receiving care through mundane movements such as looking left and right at crossings together or following one another when navigating narrow spaces. Kullman (2014:2871) also argued that by moving in groups children have two or three pairs of eyes, ears and so on, thus forming "affective and sensory 'amplifiers'" which allow heightened sensitivity to the environments they move through. Children on the walking school bus in Auckland also expressed a sense of safety being "*all together*" (Kearns and Collins, 2003:206); however, in this setting, collectives of care held adults as responsible for safety until children (aged 9) "graduated" to walk independently or with a friend (Neuwelt and Kearns, 2006).

3.3.4. Enjoying shared and solitary mobility

Children across most studies enjoyed social interactions with other peers, parents or familiar adults and domestic dogs and cats on their school journeys, but some children also reported pleasure in walking alone.

3.3.4.1. Enjoying conversation, activities and sociality with human and non-humans animals. Children who travelled by car tended to experience more interactions with their parents and siblings than those who walked or caught buses. Chauffeured children sometimes reported enjoying the car journey and conversations with their parents, particularly mothers, and the opportunity to connect with family members through social activities including singing and playing games (Barker, 2011). Others expressed frustrations with interactions with other car users blocking roads or creating traffic (Fusco et al., 2012), reported limited conversations with parents, conflicts with siblings (Egli et al., 2019), and/or disliked missing opportunities to socialise with friends and others. Many children who used buses enjoyed the sociality they afforded; however, some younger children disliked buses being crowded and noisy (Egli et al., 2019).

Children in walking school buses enjoyed talking to other children and adults (Kearns and Collins, 2003; Neuwelt and Kearns, 2006; Wilson et al., 2019). Children who walked were able to engage more with human and non-humans outside of the nuclear family unit (Fusco et al., 2012, 2013; Mitchell et al., 2007; Romero, 2010). For instance, children in Wilson et al.'s (2019) study enjoyed interacting with familiar friendly faces of crossing guards. Some children in Kullman (2014) and Wilson et al.'s (2019) studies, based in Helsinki and Ontario respectively, also enjoyed seeing or interacting with "cute" dogs who enabled "light touch" sociality on journeys to school. Children in various studies reported enjoying socialising with friends on the way to school, and engaging in other activities whilst travelling actively, such as singing and playing, and discussing the day ahead, tests in school, and even personal difficulties (Egli et al., 2019; Fusco et al., 2013). Walking to school often meant children developed friendships and showed "even short journeys to be strategic in conveying inclusion in peer networks"

(Kullman, 2014; Ross, 2007: 384). Kullman (2014:2870) found that "sharing the same trajectories, rhythms, and tempos can create new affective and sensory bonds among people" and add a "sense of togetherness among the co-travellers".

3.3.4.2. Reflection and contemplation. In contrast to the school journey as a time for sociality, four studies found walking, particularly for those who walked alone, was experienced as a time for reflection, contemplation, imagination, and enjoyable solitude (Egli et al., 2019; Fusco et al., 2012, 2013; Romero, 2010, 2015; Ross, 2007). For instance, a child in Fusco et al.'s (2013) study said:

> *"It's mostly if I am sad and I am just clearing my head. Usually when I walk on my own, I usually get over it because I start thinking about what I am going to do today"*

Fusco et al. (2013) also highlight that the possibilities for contemplation, and for improving children's state of mind, could also develop through meaningful conversations with friends when travelling.

3.3.5. Exploring environments

We found many studies showed the importance of how children, particularly those who used active modes of travel, enjoyed engaging with and exploring their natural and material environments on their journeys to school. Instead of engaging simply in transport, such children therefore engaged in what Ingold (2007) describes as 'wayfaring': investigating possibilities of spaces whilst on the move.

3.3.5.1. Playing and exploring routes. Several studies reported children engaging in other activities on their school journeys, including having fun playing games along and with their routes, taking diversions through parks, creating short-cuts and exploring 'hidden' spaces or objects on pavements. Whilst some created short cuts through woodlands, in part to shorten their distance to school (and enjoy the natural forms), others engaged in curious and exploratory play, which was often social and can be viewed as a learning process of "'careful' risk taking" (Kullman, 2010:840). These forms of play circumvented adult control where children utilised environments to exercise their own agency. For instance, Kullman (2014) and Ross (2007) showed how children explored relatively mundane places, such as courtyards, that they conceptualised as secret locations away from adult surveillance. Romero (2010, 2015) also explained how children valued recreational facilities often specifically designed for children (e.g. playgrounds, skate parks) where they could stop and play on their route home from school, as well as choosing routes or views of interest themselves. Others enjoyed speeding and doing jumps on their bikes when cycling (Egli et al., 2019; Mitchell et al., 2007). These spontaneous adventures and forms of free play disrupt the orderliness of routines set by adults and "can only occur when children are able to set their own agenda, making decisions along the way, setting the pace, observing, interacting and reacting as they travel" (Ross, 2007:383).

3.3.5.2. Engaging with natural forms. Overall, studies showed that children enjoyed travelling through green and 'natural' spaces en route to/from school, often actively engaging with trees and other flora and fauna. Ross (2007) and Wilson et al. (2019) showed how children noted the effects of changing seasons and how this made them feel:

> *"It has a big tree in front of it and it looks so beautiful and the leaves change colour and I just like to stop and stare"* (Wilson et al., 2019:123)

Egli et al. (2019) also noted how pleasant views on their journeys made some feel relaxed. There was often a relational element to engaging with 'nature', in that children often experienced natural forms together and natural elements sometimes created opportunities for collective fun (Romero, 2015). Children experienced varying weathers and terrains when travelling actively and sometimes used natural forms in fun and creative ways for sheltering from different weathers. For example, in Romero's analysis, "children described how they would play a game to find the 'magic spot' or the place beneath the tree's canopy of leaves that acted as an umbrella" (Romero, 2015:234). Children using active travel modes tended to enjoy outdoor physical activity on their school journeys, with some discussing feeling exhilarated or energised from being in the fresh air (Egli et al., 2019; Kirby and Inchley, 2009; Mitchell et al., 2007; Lee and Tudor-Locke, 2005). In contrast, authors also reported some children valuing their journeys being short (distance) or quick (time) (Ahlport et al., 2008, Egli et al., 2019; Kearns and Collins, 2003; Mitchell et al., 2007).

3.3.5.3. Chauffeuring limited exploration and spontaneity. Some studies highlighted a difference in how children engaged with and explored environments dependent on whether they used active or non-active modes (primarily car-chauffeuring) (Fusco et al., 2012, 2013). Mitchell et al. (2007) and Fusco et al.'s (2012, 2013) analyses highlighted this difference that children themselves recognised, with some expressing deep desires to change to active travel modes:

> *" 'Cause in the car you can't really stop and look at a lot of stuff. But when you are walking, you can stop and look at anything you want … Well, I'd look at, if I saw a cool leaf on the ground. I would pick it up and look at it. And, also I could stop and look at some gardens or something … also if there is a rainbow, in a car you really can't see it. But when you walk you can 'cause you can look up"* (Non-AST child, Fusco et al., 2013).

4. Discussion

Our synthesis of 18 qualitative and ethnographic studies regarding children's (aged 5–13) experiences of their usual school journey shows that this journey is much more than a process of 'getting from A-B' (Horton et al., 2014). Our synthesis shows that children experience a sense of vulnerability from traffic, material environments and others, but that they can evoke shared agency and negotiate perceived and objective risks. The existing literature shows that active school journeys offer children embodied, exploratory and sociable experiences. These experiences appear connected to a process of careful collective risk taking and ongoing learning and negotiation of material and social environments, which can contribute to a wider sense of care (Kullman, 2014). The richer ethnographic papers in particular show how engaging with others and exploring environments on the school journey plays a role in developing children's independence and sense of agency within the urban environment. These papers also illuminate how agency is shared and co-constructed over time through relational processes on school journeys.

Children's perceptions of vulnerability are interconnected with the objective nature of risks that differ across contexts (such as higher risks of violence in some neighbourhoods), as well as wider discourses around risk, as reflected in the concerns of parents. Some studies in our synthesis that included parents' perceptions showed how parents' worries, primarily regarding risks of traffic and abductions, lead to chauffeuring, which has in some contexts become associated with 'good' parenting and a site for gendered care practices (Barker, 2011). However, others noted how parents played a role in negotiating such risks, including ensuring their children walked with an older sibling or a friend (Ahlport et al., 2008; Kullman, 2010; 2014).

The findings about how children actively negotiate risks echo wider literatures on children's independent mobilities. For instance, recently Wales et al. (2020) found that 10-11 year-old children growing up in a small Swedish community designed to be supportive for mobility, shared knowledge with each other to get the most enjoyment from spaces in their communities, collectively exploring hidden spaces and creating a sense of belonging in their community. Wales et al. (2020:8)

show how over time children develop their own support systems (primarily friendships) for staying safe in their local environments, and how multiple social actors within children's social environments interlace with the physical environment to produce a collective process where children's agency can develop. Another ethnographic study conducted with 10–12 year-olds in Copenhagen about wider mobilities outside the school journey showed how children's assessments of risk were connected to their perceptions of their own "bodily capabilities and skill in avoiding serious accidents", which were developed through exploration and careful reflection (Christensen and Mikkelsen, 2008:118). The authors suggest that children need to learn such bodily capabilities in relation to their social and material environments (e.g. traffic) to stay safe. Moreover, Malone (2013:375) shows how engaging with local spaces can contribute to children's "environmental competence" as well as their opportunities to contribute to the wider social capital of their local communities. Thus, genuinely involving children as participants in planning processes may foster an even greater sense of urban care.

Our findings regarding children's experiences of sociality and environmental connection, are also comparable to other ethnographic and qualitative work with parents and families. For instance, studies in the UK show how parents experience walking to school with their children as 'special' time (Pooley et al., 2011; Nikitas et al., 2019). Nikitas et al.'s (2019) findings from focus groups with parents in Bradford show parents perceive the walk to school to also be beneficial for educating children about exercise and health, and for learning about the environment. Our synthesis saw the former reflected in children's means of negotiating with their parents to travel to school actively, and the latter as valuable to children's experiences of their journeys.

Meta-ethnography findings are inevitably influenced by the nature of the studies selected. Our systematic search excluded grey literatures and research not published in English language academic journals, thus potentially excluding studies from some non-English speaking countries. This systematic review also featured only one study conducted in a low-income country (Kenya). Although the key themes of this paper did not differ significantly from the others included in the review, the context did, which included children having to navigate greater risks, especially regarding the terrain and threats of violence. As our findings may thus be more relevant for high income countries, there is a distinct need for more research in low- and lower-middle-income countries. Many studies synthesised lacked conceptual depth and as such the interpretive papers led the analysis. The multi-disciplinary authorship team enabled useful critiques and complementary insights in the analysis process. The studies using child-centred methodologies, including innovative and participatory methods to elicit children's perspectives, tended to present richer findings and analyses, and were published from 2007 onwards. All the papers published since 2012 focused solely on children, suggesting that the call for children's perspectives in school travel literatures is materialising. Studies using mobile participant observation and visual methods produced the richest insights, hence further research utilising participant observation in diverse contexts. We welcome the field moving towards more child-centred methodologies, which can ensure attention is paid to children's relational experiences of their daily journeys. The field could be advanced by studies that explore how and in what ways children may be involved in transforming their local environments. This may be by relationally constructing a collective sense of care in their local material environments (Kullman, 2014), or by meaningfully participating in planning processes (Nordström and Wales, 2019), thus making routes to school safer for whole communities.

5. Conclusions

This paper has synthesised qualitative studies about children's experiences of their school journeys. Overall, the literature shows that children can feel vulnerable on the school journey due to experiences of objective and perceived risks within the environment. However, children can evoke shared agency and gradually learn to negotiate risks in some contexts through relational processes. Thus an active school journey can be one of exploratory, embodied and sociable experiences. We thus suggest that attending to the concerns of children about their socio-material environments, and to their experiences of the wider benefits of school travel for informal learning could be valuable for AST interventions, including environmental interventions designed to facilitate walking and cycling. Environmental interventions that facilitate AST by involving children in design and planning of environments in an effort to help make school routes safer will also have wider benefits for children (Mackett et al., 2007).

This paper provides a rigorous synthesis of the current evidence base. For the field to move forward there is a need for such literatures to be used in developing new strategies to encourage active travel which mitigate negative experiences and foster children's agency and engagement with their socio-material environments. As such, we suggest involving children in interventions surrounding active travel and moving beyond barrier focussed research to solution focussed action research.

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Authors' contributions

SM was involved in the conception, design, screening, quality appraisal, analysis, data synthesis, interpretation and write up of the manuscript. TP was involved in the conception, design, screening, quality appraisal, analysis, interpretation and write up of the manuscript. EL was involved in the conception, design, screening, quality appraisal, analysis, interpretation and write up of the manuscript. LF was involved in the design, screening, analysis, interpretation and write up of the manuscript. CS, JP, JA and RJ were involved in the conception, design, interpretation and write up of the manuscript. SM initially drafted the article and all authors contributed to subsequent drafts and approved the final manuscript. All authors have approved the submitted version and have agreed to be personally accountable for their own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, are appropriately investigated, resolved, and the resolution documented in the literature.

Data Access Statement

This is a review article, and therefore all data underlying this study is cited in the references. No new data were created during the study.

Declaration of competing interest

None of the authors have any conflicts of interest to declare.

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