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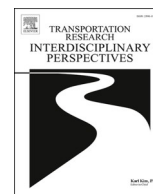
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Unravelling the rationalities of childhood cycling promotion

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A B S T R A C T

Decrease of children's independent mobility (CIM) has worried academics, policymakers, educators and other professionals for decades. Research and policy often emphasise that promoting children's physically active and independent transport modes as cycling is important to achieve better public health, solve environmental challenges and increase related economic benefits. Yet, cycling promotion is not a neutral process and all promotion efforts are derived from latent notions of 'cyclists' and 'cycling'. This paper discusses different rationalities of childhood cycling promotion and the representations of 'children' as independent 'cyclists' they entail. We argue that in order to efficiently promote cycling across contexts, we should better understand children's cycling experiences and meanings they ascribe to it and how their mobilities emergence in the flux of social, institutional and political relations. By applying action research to a local cycling promotion project in Finland we explore how instrumental, functional and alternative rationalities emerged and resulted in differing representations of children as cyclists. While all rationalities played a role in different stages of the project, the results highlight that alternative rationalities as children's autonomy, positive emotions and friendships were considered the most important drivers of new cycling practices among project participants. In conclusion we propose children's autonomous mobility as the most appropriate term to depict their cycling and other self-imposed (but relational) mobility practices.

1. Introduction

Cycling seems to have an exceptional meaning for childhood. For many people it is the first autonomous transport mode beyond walking, which provides an unforeseen liberty to discover the living surroundings, especially in countries and cities where children's autonomous mobility is commonplace (McDonald et al., 2021). Not much is known about how children perceive various features of cycling, but existing studies point to qualities that stand clearly apart from purely functional and instrumentally beneficial *transport*. For instance, playfulness, sensory pleasure, mobile sociality, 'coolness', freedom, exploration and escape are suggested to be some of the key meanings of childhood cycling (Bonham and Wilson, 2012; Handy and Lee, 2020; McIlvenny, 2015; Mikkelsen and Christensen, 2009).

By contrast, societal valuations of children's cycling and other human-powered mobility seem far clearer. Assessment and calculation of various benefits, especially in relation to health, is often emphasised in wide ranging literatures on children's independent mobility (CIM). Importantly, studies have pointed how CIM has steadily declined in the industrialized world for decades (Hillman, 1990; Kyttä et al., 2015; Shaw et al., 2015) as adult chauffeuring by car has claimed precedence in daily mobility patterns and public space (Karsten, 2005). As a range of benefits is expected from CIM, this decline has spurred policymakers, planners and academics interest. The rationality – *why* and *how* we should study and promote cycling – is often derived from instrumental and functional agendas. Regarding the *why*, the worry on children's (as well as adults) lack of healthy physical activity and its economic repercussions dominate discussions (e.g. Marzi and Reimers, 2018; Schoeppe et al., 2013). Regarding the *how*, research and policy aim to facilitate cycling as efficient, safe and functional *transport* from A to B (see Aldred, 2015), which is apparent for example in that the journey to school is often segregated as the single most important mobility practice (as a counterpart to adults' commute) (Mitra, 2013).

Hence, there seems to be a discrepancy between how children perceive their independent cycling practices and how a large part of policy and research see it – if it is an intrinsically valuable part of everyday life with its affective and social qualities or more of a functional and instrumental practice. We argue that too much reliance on the

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instrumental and functional rationality advances a reductive understanding of 'children' as 'cyclists' and fails to account for their meanings and experiences of everyday mobility (Horton et al., 2014; McIlvenny, 2015; Mikkelsen and Christensen, 2009). Subsequently we are lacking an important knowledge base to inform planning, policy and cycling advocacy to promote childhood cycling.

Representations of children as a social group and cycling as a mobility practice are crucial, because mobility language is performative (te Brömmelstroet 2020). Cycling promotion is always derived from more or less explicit representations of 'cyclists' and 'cycling' (Osborne and Grant-Smith, 2017). These representations involve sets of valuations and shape cycling governmentalities that privilege certain subjectivities and practices over others (Cupples and Ridley, 2008; Spinney, 2020; Stehlin, 2014). Studies have scrutinized cycling advocacy, policy and planning processes, infrastructures and materialities as well as education, marketing and other 'soft' measures to find out 'how certain forms of subjectivity are nurtured into existence instead of others; in relation to which rationalities are certain subjectivities represented as more legitimate, normal and desirable while others are marginalised or excluded?' (Spinney, 2020, 38). In this regard Cupples and Ridley (2008, 254) have criticized 'totalising tendencies [of cycling promotion] which obscure social and cultural difference, ignore the embodied and affective dimensions of transport practices and fail in part to apprehend the heterogeneity of environmental responsibility'.

This paper analyses the rationalities of childhood cycling promotion and subsequent representations of children as cyclists in a cycling promotion project in Finland. It is part of a national research project where mobility research seeks enhanced societal relevance and impact through urban interventions (see Funding). Hence, our argument is <u>not</u> that it is wrong to see cycling and other independent mobilities as something that serves a range of societal benefits. Instead we argue that rationalities that reduce children's cycling to something that is detached form their own meanings and undermine their agency, fail to account for the social mechanisms that create change (Pawson and Tilley, 1997). This kind of inability to produce transformative knowledge risks to result in policies that are at best ineffective and at worst create perverse effects. To better understand changes in cycling practices, research should enable people to imagine and experiment things that are not restricted by prevailing transport rationalities and imaginaries (Cox, 2019, 41-42). To this end, we used action research, co-research and experimentation to create a learning process among the project organisers that in turn made different rationalities and representations observable in the course of the project.

First, we review studies on childhood and mobilities to inform our research setup. Second, we describe the methodology, research process and data. Third, we describe how the rationalities of childhood cycling promotion formed and changed throughout the project. In conclusion, we discuss why research on children's mobility should shift the attention from independence towards interdependence and children's agency in the relational emergence of everyday mobilities (Mikkelsen and Christensen, 2009).

1.1. Making up cycling children?

Spinney (2020) has analysed how cycling has been used as a mode of neoliberal governmentality and how this has served to exclude children (among other groups deemed 'non-standard', 'non-productive' and 'non-efficient') from cycling. Cycling children are something apart from the effective and purposeful use of public space in the neoliberal city, and mobility spaces are not somewhere children belong (ibid. 64–75). Excluding 'childish' use of mobility spaces constructs children as 'incompetent adults', who would need to learn to appreciate cycling as functional utility transport. As at the same time research and policy proclaim the benefits of CIM, children and parents are left in an ambivalent situation. Cycling can be regarded as a biopolitical 'mobility fix', as it is sought to fix societal problems (as childhood health and

transport emissions), but the responsibility is waived to the individual (ibid. 86–102).

This responsibilisation of individuals through cycling promotion especially regarding health benefits is part of a more global research attention towards childhood biopolitics, governmentality and politicization of children's everyday lives (Kraftl, 2015). For our study they offer a starting point for analysing how the instrumental and functional rationalities of cycling entail implicit constructions of children, especially regarding their own capability to act in and make sense of the world. Pre-emptive and anticipatory policy addressing children's health issues (and cycling as a response to them) risks reducing children's bodies to biological matter that universally determines their future health as childhood sets the individual on a locked in trajectory (Evans, 2010; Evans and Colls, 2011). The child body is not a site of experience, agency and citizenship, but something that should be managed to contribute to collective future benefit (Mayall 2006). Similar 'futurity' can be observed regarding environmental issues (and cycling as a response to them) – future generations are the ones to bear the consequences of present-day adults' emissions but this policy discourse allows the oversight of children's present-day agency (Evans and Honeyford, 2012). Katz (2008; 2018) has discussed this dynamic and analysed how childhood policy and childrearing practice reflect the socio-political importance of childhood in managing the ontological insecurity caused by political, economic and environmental futures. The neoliberal logic positions children as investments for the future, which 'are realized socially through some inchoate sense or fantasy wish-dream that they actually will 'save the world' or at least save us from ourselves and the consequences of our actions or inactions' (Katz, 2008, 12). Yet, their own ability to make sense of these issues in their lives and realize any futures in their present lived realities is often neglected (Evans, 2010; Evans and Honeyford, 2012; Mayall, 2006). This notion of children only as future adults and incomplete 'becomings' stands at odds with international political processes (e.g. UN Convention on the Rights of the Child) and research in childhood studies, that have established children as capable of making sense of their lives and benefitting from participation along provision and protection (Holloway and Valentine, 2000; Skelton, 2007).

Regarding childhood mobilities, studies show that children are active agents in their emergence together with peers, adults and various institutions (McDonald et al., 2021). Peer relations shape children's walking, cycling and other mobilities in ways that question the notion of 'mobility as transport', because sociality, play and connected emotion often overrule the functional meanings (Horton et al., 2014; McIlvenny, 2015; Mikkelsen and Christensen, 2009). Co-mobility with parents creates mobilities of care (Ravensbergen et al., 2020; Waitt and Harada, 2016), but parents also negotiate, mediate, support or suppress children's mobilities without being physically present (Barker, 2003; 2011). These negotiations are greatly shaped by perceived safety issues and moral obligations about 'good' parenting and 'good' childhood in the car dominated transport system (Boterman, 2020; McLaren and Parusel, 2012; Murray, 2008; Petrova, 2021).

In addition, various institutions and organisations also shape children's mobilities (e.g Holloway and Pimlott-Wilson (2014) refer to the 'institutionalisation' of children's geographies). Here, one of the most prominent factors is children's organised activities. During the last few decades, sports clubs, art classes and other public and private after school activities have become a critical factor in moulding societal and parenting ideals about the appropriate socio-spatial organization of children's lives (Holloway and Pimlott-Wilson, 2014; Lareau, 2011; Wheeler and Green, 2019; Witten et al., 2013). This is explicitly linked to the increase of adult chauffeuring and decrease of CIM (Hjorthol and Fyhri, 2009; Lareau and Weininger, 2008; Wheeler and Green, 2019). Simultaneously children have become considered as 'incompetent' users of public space, which is apparent in moral positions about parenting (Valentine, 1996; 1997) as well as in the production cycling infrastructures (Spinney 2020, 64). This shift of childhood from public

space to institutional spaces is a key insight for the relational understanding of children's mobilities. For instance, already two decades ago Karsten (2002) observed the simultaneous exclusion of children from public urban spaces and increased provision of specialized, institutional spaces (e.g. outdoor play spaces, leisure centres and caring institutions) in Amsterdam, a globally leading cycling city.

This relational understanding of childhood mobilities blurs the line between independent and interdependent mobilities, making the whole dichotomy somewhat useless. Importantly, children's own agency in the emergence of their mobilities is not manifested through 'independence', but through negotiation in the flux of social relations (Mikkelsen and Christensen 2009). Turning the attention away from the taken-for-granted positive notion of CIM and the instrumental and functional rationalities towards the processes where children's mobilities are negotiated (and acknowledging children's active role in these negotiations) can point out the deficiencies of current rationalities and facilitate the emergence of new ones. This means challenging the latent representations of children and cycling and analysing the two together to grasp how childhood and mobility 'recursively produce one another' (Barker et al., 2009, 5).

2. Methodology

To study rationalities of childhood cycling promotion, we took part in a project embedded in national and local sustainable mobility policy processes in Finland (see section 2.2). Through the case example we point how the socio-political reality played out at the end of the policy process, how different rationalities emerged and enmeshed and how childhood mobilities were renegotiated in the flux of social, institutional and political relations. The focus is on the discursive constitution of childhood cycling: what kind of framings, argumentation and knowledge are deemed legitimate and how that can change through practical experimentation, co-research with project participants and continued dialogue. Essentially, the paper suggests a methodology for studying how mobility policy and governance intersect with everyday mobile lives (Doughty and Murray, 2016).

2.1. Rationalities and action research

For these purposes the concept of rationality is derived from Jensen's (2011) notion of 'seeing mobility'. She combines Foucauldian-inspired governmentality framework with perspectives based on the affective experiences of spatialised mobility (see also Doughty and Murray 2016). Jensen argues that 'expanding our language for engaging with analyses of mobility develops our understanding of the political reality and the sociality in which mobility is enmeshed. Concurrently, the very establishment of ways of seeing, be it by policymakers, urban people or academics, is itself a productive exercise of power' (Jensen, 2011, 258).

The governmentality framework enables analysing transport policy and governance as discursive competition (and harmony), where rationalities are 'shaped by discourses, constituted through power and made visible in local practices' (Richardson 2001, 303). Governmentality consists of rationalities and practices imposing a 'conduct of conduct', which means that production of mobile subjectivities is not achieved through coercion but in a suggestive manner through shaping the field of action where mobilities are imagined, enacted and experienced: [v]ia particular forms of knowledge, framings and practices, the subjects of governing are informed on how to behave, perform and shape their identities in ways that align with taken-for-granted knowledge and accepted true perceptions of the field, rather than commanded to particular behaviours' (Jensen, 2011, 259). Consequently, subjects' thoughts, actions and meanings on mobility are delimited. However, Jensen adds that as mobilities are embodied, spatial and material practices, power also works through kinetic, sensuous and ambient aspects experienced by spatialised mobile subjects. In other words, governmentality is not straight forwardly transferred onto people, because

'[i]n parallel, power is distributed through emotional experiences and cultural differences are productive of particular mobile emotions' (Doughty and Murray 2016, 307).

Linking the governmentality perspective with spatialised and affective experiences of mobility creates an approach where representations (of children as cyclists) and experiences (of cycling children) can be analysed in the same framework. Indeed, our action research aimed to mix these different ways of seeing mobility by disrupting project rationalities with experimentation, co-research and dialogue concerning children's embodied, affective and social meanings of cycling. Hence, the concept of rationality is used here as an analytical tool, which is not limited to governance processes but expands to children's cycling imaginaries and experiences.

This concept of rationality is applied to action research methodology. There are various strands of applied social science that simultaneously seek to instil and study change. Action research generally refers to methodologies aiming to break prevailing rationales, appropriate new discourses, change practices and promote emancipatory change through learning and reflection *with* the participants (not *on* them) (Altrichter et al., 2002; Bradbury and Reason, 2003). It is an iterative process to reframe, reconceptualize and reflect with individuals, organizations or communities what kind of developments they are participating in. As a form of social activity, action research aims at opening new discursive spaces for dialogue and reflection (Wicks and Reason, 2009). Even though participants own interpretations are centre stage, research should also be able to grasp the unrecognized and unintended aspects of their reasoning and bring them into discussion (Friedman and Rogers, 2009).

Action researchers may adopt different, potentially overlapping roles when creating and maintaining spaces for social learning. Our roles in the project can be depicted as 'process facilitators' and 'knowledge brokers' (Wittmayer and Schäpke 2014). We aimed to distance ourselves from the emergence of different rationalities and merely bring the different stakeholders together, provide the space for interaction, document the process and leave it to the participants to direct and redirect reflections and actions (see section 2.3). However, we took an active role in introducing ideas for co-research and conducting all data collection and analysis (see section 3). Even though majority of co-research was directed towards issues that were deemed relevant by the participants, we were involved as participant-researchers and in this regard cannot deny our presence in the development of the rationalities and representations subject to study. As a result, analysing and reporting the results in this paper is a process of reflection and reflexivity. Following Stirling (2006) reflection means reporting our observations whereas reflexivity means understanding one's own role as a part of the object, which in this case is limited to knowledge creation and distribution.

2.2. Case selection

Study context evidently shapes how rationalities emerge and change as 'governing is always embedded in particular rationalities which are local and historically produced' (Jensen 2011, 259). Our study took place in a municipality of approx. 150 000 habitants in Finland. Mode share of cycling is not high in the country (7,8%), but rates of children's autonomous mobility are high, and children are overrepresented among cyclists (Goel et al., 2021; Shaw et al., 2015). One part of the municipality's transport operations is a policy network for sustainable mobility that includes public, private and civic actors. In this network two cycling advocate NGOs, a local cycling club and a sustainable development citizens' association, had since long been promoting cycling by taking part in policy making, creating cycling promotion campaigns and organizing a range of cycling activities. Review of their past and current operations proved that the organisations had a well-established status in the local cycling policy process. Furthermore, these cycling advocates were linked to national level cycling policy as many of their initiatives

were funded by the government, especially through mobility management funding that supports initiatives using education, communication, marketing, experiments and other 'soft' measures. This government funding was also used to fund the cycling promotion project subject to this paper. This way our study was entrenched in both national and local cycling policy processes.

In the initial discussions, the cycling advocates agreed on the importance of children's organized activities for their everyday mobilities and the idea about a joint initiative was presented to one of the biggest children's sports club in the area. The club community involved over 400 children in team sports multiple times a week. Children were aged from 9 to 14 and majority of them were boys. The club board and operational personnel uniformly accepted the idea about participating in the project.

The case offers an example of cycling promotion as a part of wider sustainable mobility framework and highlights two distinct features. First, it focuses on the use of communicative and 'soft' measures (apart from technology, land use, pricing etc.) where changes in mobility patterns are sought through education, marketing and active involvement of people and different stakeholders in change processes (Banister 2008). Second, the case points how cycling policy can be implemented through partnerships, quasi-public networks and policy communities involving cycling advocates, activists and other key stakeholders across governance levels (Aldred, 2012; Balkmar, 2020; Spinney, 2010). While these governance processes and practices are not in the focus of this paper, their implications are discussed in the conclusions.

2.3. Data and analysis

In the course of the 18-month project there were four representatives from the cycling advocate NGOs and one municipality representative (cycling advocates), seven representatives of the sports club (club personnel) and four researchers that took part in the workshops and collaboration (together referred to as *participants*). Monthly workshops were organised (with few exceptions as the summer break) and issues were further discussed in more brief meetings and messaging. In total 42 meeting memos were collected.

The participants and workshops formed a communicative space (Wicks and Reason, 2009), which aimed to create a consensus about the project aims and plan a set of actions. In the role of 'process facilitators' researchers took care of workshop logistics, collected minutes and memos and described reflections and actions in a process description document, which was another key piece of data. To further illustrate participants' consensus on the initiative, infographics and figures were drawn, discussed and redrawn in the workshops. All documentation was available to the participants in a shared online file and they could be commented at any point to ensure their ownership of the project (Altrichter et al., 2002). Outside of the workshops the participants presented the project in relevant meetings, seminars, blogposts, news articles and social media. On multiple occasions the participants were also invited to local and national events discussing sustainable transport, cycling, childhood and health to provide inspiration and examples. A record was made on all these occasions and this outward communication supplemented the data from the workshops. Furthermore, the participants were individually interviewed at the beginning and end of the project to bring out potential tensions, discrepancies and insights that would not be stated in the workshops.

Negotiating, writing, sketching and presenting the project as well as the individual interviews made the participants continuously frame and explicate the initiative; what it was about, why it had been initiated, what was to be done and what could be expected as results. Here, the rationality of the project was formed, but also challenged and revamped throughout the project. Diverse complementary datasets ensured a comprehensive view on the process and the rationalities and representations that emerged. The credibility of the findings was further supported by having multiple researchers analysing the data and reflecting

on the process during and after the project.

3. Research process and results

The first part of our findings presented here concern the process that emerged through the collaboration among the participants. Typical to action research, our study created an iterative process where recursive cycles of action and reflection directed and redirected its focus (Altrichter et al., 2002). Action research cycles are often depicted consisting of planning, acting, observing (researching) and reflecting (ibid.). In our study the cycles were partly overlapping as workshops, co-research, communications and experiments were implemented in a constant stream (Fig. 1). Still, a chronological order of three cycles emerged in the analysis, in which each cycle constructed a different rationality and representations.

The participants were involved as co-researchers and a key discussion in the workshops was what kind of data should be collected from children and their parents. After each research act, the results were discussed in the workshops. This way co-research was entwined with the workshop dialogues and new knowledge reshaped the common understanding. Co-research but provided participants oversight on different issues, also allowed them to evaluate the outcomes of various actions.

It is the core of any analysis of discourse to consider what kind of knowledge is deemed (ir)relevant. Workshop reflections on the planning, implementation and results of co-research were key moments for the analysis of the rationalities and representations at different stages of the project. In a very concrete way, co-research served to change project rationality as reflecting on the findings redirected subsequent co-research and actions. There were of course multiple ways of problematizing the phenomena, but the workshops always aimed to reach a consensus to be able to work together in a coherent manner.

Based on the co-research and workshop insight, the participants planned a set of communications and practical experiments to children and parents to promote cycling[1], which added another important layer to the analysis of rationalities. As actions were derived from given rationalities, it offered us insight on their causal logics: how certain framings and knowledge could be turned into concrete actions and subsequently into new cycling practices.

Next, the cycles of action and reflection are described more in detail and in 3.2 we turn to the rationalities and representations they produced regarding children as cyclists.

3.1. Cycles of reflection and action

The workshops started by creating a problem statement. The participants had only rarely seen or heard of children travelling to the organised activities by other modes than the car (this was later confirmed in the co-research). At the same time, it was discussed how Finland provides good conditions to CIM and that for example majority of journeys to school are done by foot or bicycle (see González et al., 2020). Considering this context, children's organised activities were perceived exceptionally problematic in instilling children's car-dependent lifestyles.

3.1.1. 1st cycle

At the outset of the project, the notion of cycling as instrumental to health promotion quickly became an influential discourse. It was emphasised that participation in organised activities does not guarantee sufficient levels of physical activity for children in regard to global recommendations (see Bull et al., 2020). Hence, promoting cycling to

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[1] Some of the co-research and experiments were impacted by the COVID19-pandemic. Also, some of the workshops and almost all interviews had to be done online. All club activities were also halted during spring-autumn 2020, which delayed the start of planned experiments.
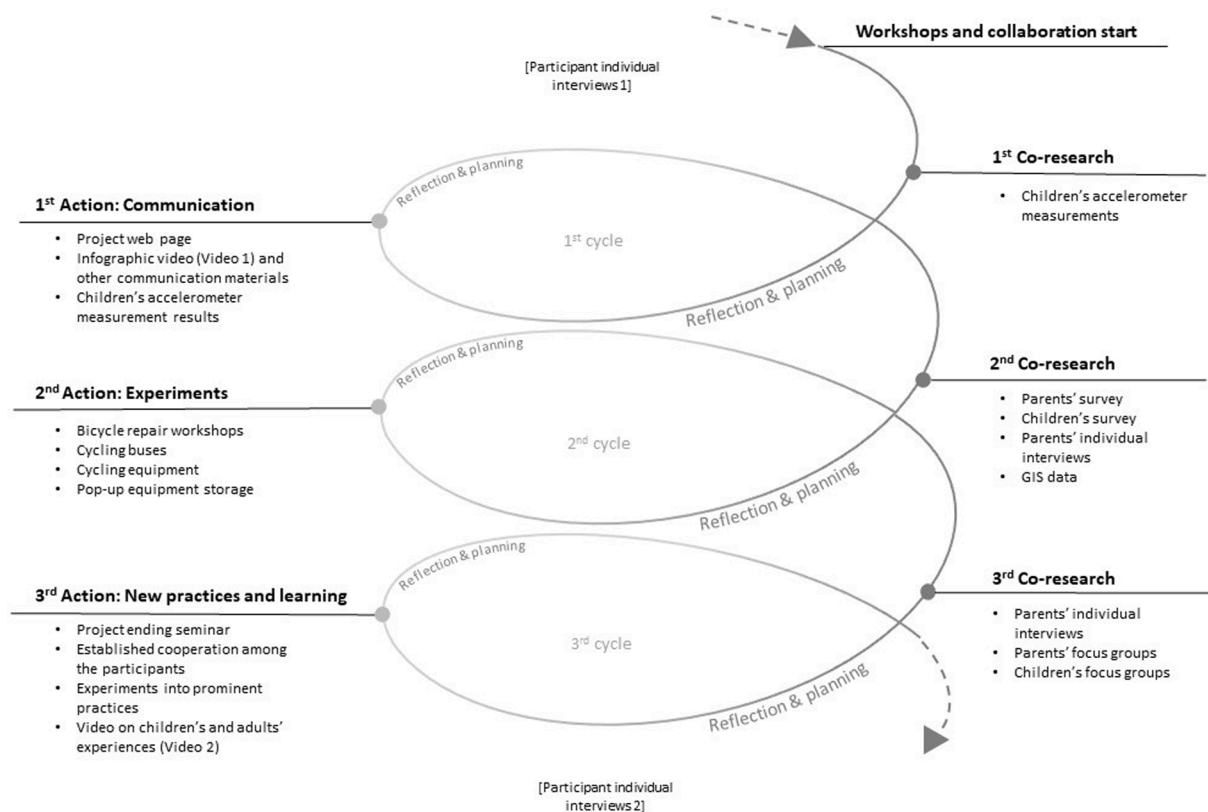
Fig. 1. *The interrelated cycles of reflection and action.* Co-research, communication, experiments and reflection recursively produced three cycles of reflection and action *(applied from* Straatemeier et al., 2010*)*.

and from the activities was *an obvious solution as there are great amounts of unlocked health promotion potential in everyday transport* (Workshop memo Feb/2020). Great deal of attention was directed towards children's parents, as they were deemed dictating children's activities and mobilities. According to workshop discussions, parents often have *delusional ideas about their children's physical activity levels, as they think that by bringing children to organised activities would be enough for their healthy development* (Workshop memo Feb/2020). In other words, parents were seen as not teaching children comprehensive 'active lifestyles', but the cycling promotion project provided the opportunity to educate them on the issue. Furthermore, it was deemed that parents' lack of knowledge was connected to a *car-intensive culture of parenting* (Workshop memo March/2020):

'I mean I understand that you [parents] have a busy life and everything and that the car makes the organization so easy, but for many [parents] it's not enough that they drop them [children] off at the gate [outside the sports facility]. They stop the car, get out, open the gate, drive through, stop the car, get out, close the gate and drive right at the entrance so that their children would not need to walk that 200 hundred meters' (Club personnel, first round of interviews).

The detailed quote highlights the notion that the practice of parents chauffeuring children was something beyond purely functional transport – it was an element of a parenting culture, which should be changed by communicating the benefits of cycling and by providing 'compelling evidence'. Here, co-research was deemed to provide a panacea. By measuring children's physical activity levels with accelerometers and showing parents the *raw numbers on how active their children were compared to global physical activity recommendations, the project would provide incontestable arguments for cycling promotion* (Workshop memo Feb/2020). To accommodate this, the children wore accelerometers for a week. The measurement results were compared to global physical

activity recommendations and the comparisons were distributed to children and parents. At a later stage the measurements were replicated to provide the opportunity to compare results after assumedly taking up more cycling. These actions were further supported by producing research-based communication materials (e.g. Video 1) on cycling, children's health and transport emissions, which were communicated through club webpage, team meetings, mailing lists and other relevant means.

The environmental benefits of cycling constituted another key message that was communicated to the parents. It was seen that children's organised activities as a social movement *must pay close attention to environmental responsibility, and car journeys to the activities form an important part of the overall carbon footprint* (Workshop memo Apr/2020). The participants described how the 'world has changed' and that environmental responsibility is a part of the 'new' expectations that are directed towards childhood institutions. More precisely, environmental responsibility constituted an important part of the 'quality' of the activities, that was valued by the 'clients' (parents):

'We need to be good at this game [environmental responsibility], if we want to be an attractive and invigorating activity, and if we want to be a community, then we have to think all the time how can we be something more to that community… Today parents are so much more interested in what's going on with their children, and it challenges us, we need to be better and more open. That's the way the world goes now, otherwise we will not get along' (Club personnel, first round of interviews).

Because of the positive environmental connotations, cycling was instrumentalised to *create value and enhance the families' commitment to the activities in the competition against other forms of childhood leisure* (Workshop memo May/2020). As with health promotion it was parents, not children, that should be informed about the issue. Still, the

environmental responsibility was perceived as ancillary to health promotion and the order of these two discourses was the same across workshops and communications: the project was firstly about health promotion but bore *also* environmental benefits that should be highlighted to attract parents' attention.

3.1.2. 2nd cycle

Contrary to the participants' expectations, the accelerometer results and connected communications failed to create a distinctive reaction among the parents. The second cycle co-research entailed surveying and interviewing parents, which both showed that they did not feel that the feedback on their children's weekly physical activity or information on the benefits of children's cycling made a difference to how they perceived it. Rather, parents stated that they were already favouring independent and active modes of mobility for their children for health promotion and environmental reasons but had no real opportunity to support them more than they already did. Parents described that they faced an abundance of practical barriers, which made chauffeuring 'the only possible option' for children to get to the activities. As a result, the focus of the workshops shifted from educating parents on *why* childhood cycling must be promoted towards *how children's cycling could be promoted by making practical arrangements* (Workshop memo Oct/2020). A quote from one of the cycling advocates highlights this:

> 'I see it in there [in my work] on a daily basis that cycling is very much about the practical stuff. If you have equipment and infrastructures that work, more and more people will do it' (Cycling advocate, first round of interviews).

In other words, the attention shifted from communicating the instrumental benefits of children's cycling towards facilitating it as functional transport. The transition from car chauffeuring to cycling was now considered more of a logistic issue depending on 'unnegotiable' material, spatial and temporal circumstances. School schedules, distances, cycling equipment, weather conditions and transportation of children's sports equipment were considered more important barriers to children's cycling than a problematic parenting culture or parents' unawareness of childhood health promotion.

Applying this agenda to co-research, the participants sought to study parents' detailed insights on the barriers of children's cycling with a survey. In addition, the survey responses were combined with GIS data on children's homes, which provided understanding on what kinds of cycling distances were considered acceptable for children of different ages (9–14 -year-olds) and for what reasons. Another key topic of co-research and workshop discussions was parents' accounts on what kind of cycling equipment their children were lacking in order to cycle safely in winter conditions. Children were also addressed with a survey asking what kinds of material and spatial factors (cycling routes, parking, equipment etc.) prevented them from cycling.

After reflecting on the second cycle co-research results on multiple occasions, a range of experiments was planned and implemented. Cycling equipment (reflectors, lights, tires etc.) was distributed to those in need and bike repair workshops were organised for the children to learn how to maintain their bicycles independently. Adult led cycling buses (children cycling together) were organised to teach children direct routes to the activities and make them aware of any crossings and other potentially dangerous places. A pop-up equipment storage was set up at the sports facilities for that transportation of sporting equipment by bicycle would not cause problems.

3.1.3. 3rd cycle

The main task of the third cycle was to assess the successfulness of the project. A project ending seminar was organised where the participants and parents reflected on their experiences and different outcomes of the project. As for co-research, individual and focus group interviews were conducted with parents. Children's accounts were collected with

focus group interviews.

Most of the parents and all participants considered the project a success. Majority of the children targeted by the experiments had started to cycle to the activities at least occasionally. The cycling advocates and club personnel continued to work together after the project as they had established a well working cooperation. Some experiments as children's bicycle repair shops and equipment storages were continued as new club practices after the project.

In the workshops, participants discussed why the project had managed to create a major shift (at least temporarily) from car-chauffeuring to children's independent cycling. They expressed content in the cooperation scheme and collaborative project management, which had formed *a refined project where co-research facilitated knowledge-based interventions* (Workshop memo April/2021). In other words, the project was considered a highly rational process were co-research provided the possibility to *take informed decisions and measure the impacts in a way that is not possible in 'normal' cycling promotion projects* (Workshop memo April/2021). However, this notion of a well-managed, rational and conscious project was challenged as the third cycle co-research results unfolded. Parents and children brought up many aspects that had not been discussed in the workshops, nor taken into account when planning the experiments.

For instance, the cycling buses were considered a key experiment among the participants, but many children stated that they had actually made them less eager to cycle. For example, a group of 12-year-olds discussed how the cycling buses felt 'silly' as they knew 'better and more fun' routes to the activities and preferred organizing their shared journeys independently. Children were more willing and able to find their ways to the activities in an autonomous manner than was estimated by the participants. The importance of autonomy was also apparent in children's rich descriptions on why cycling was more 'fun' than being chauffeured. Many liked the fact that they could decide their own schedules and have some 'loose time' with friends when cycling. There was a stark demarcation between this 'loose time' and time spent in the activities – both were fun, both entailed spending time with friends but the experience of being together was different. Importantly, children's and parents' accounts pointed that there was a strong sense of community among the children and cycling became a new way to cherish it.

Children's and parents' focus groups also pointed that the new cycling practices were not limited to the journeys from home to the activities as planned in the experiments. Children did not always go straight home after the activities, but spontaneously went about other self-organised recreational activities or just 'hung out'. This was very different to the earlier situation were children would be individually chauffeured home straight after the activities. Moreover, parents reported that children had started to 'go out' and engage in self-organised activities more flexibly than before, as they presumed less dependence on their parents chauffeuring. Importantly, many parents stated that their own and their children's notions of 'cyclable' distances had changed.

The second cycle experiments had aimed to solve various practical, material and spatial problems, but parents saw that the success of the project resulted mainly from other factors. Many of them discussed children's emotions and sociality. 'Enthusiasm', 'joy', 'content', 'pride', 'community' and 'ability to be amongst friends' instilled by the new cycling practices were perceived the main reason why children had 'a newfound autonomous conduct'. As parents discussed the relationships between autonomy, positive emotion and friendships in the ending seminar and focus group interviews, they produced a strong narrative on children's cycling that was not retelling the objectives of the workshops.

These insights were discussed among the participants in the last workshops and the project ending individual interviews. Some of them rightly reflected that there had been multiple occasions where terms like 'autonomy' and 'communality' had been brought up as potential positive outcomes for children, but that project had been unable or unwilling

to further elaborate on them in relation to cycling. As one participant stated:

'On some level, I knew that these things [autonomy, positive emotions and friendships] play a role, I've worked with kids for so long. But I think we [participants] just couldn't touch those things. I mean it comes only through experimenting, that they are actualized' (Cycling advocate, second round of interviews).

At the end of the project the participants produced another video where children and parents described their experiences. This communication material was very different to those produced in the first cycle of the project listing health and environmental benefits of cycling. The practical, spatial and material issues that had been considered the drivers of change during the second cycle were not discussed either. Instead, as one parent noted on the video, *the ease of shifting from chauffeuring to cycling owed to the shared enthusiasm among the kids* (Video 2).

3.2. Rationalities and representations of children as cyclists

In the first cycle of reflection and action participants perceived childhood cycling almost solely instrumental, which chimes with our critical remarks in the introduction of the paper. This rationality entailed little regard to how children might perceive cycling and how their specific meanings could be addressed in the transition from adult chauffeuring to children's independent cycling. Health promotion was the ultimate goal of cycling and children's bodily movements needed to be boosted by adults (as parents, cycling advocates and children's sports clubs) for mutual benefit that was objectively outlined in global physical activity recommendations. The environmental meanings of cycling were to support this mission through creating an appealing ancillary argument in the attempt to convince parents on the benefits of cycling promotion.

The representation of cycling was constructed as making use of the 'dead time' spent travelling. For example, one set of communication materials included an example week schedule of 'a child's activity possibilities' that summed up every minute of physical activity accumulated from organised activities, unorganized play, PE classes, school recess etc. and highlighted how much more physical activity could be gained from everyday cycling. The rationality seeking to *unlock the health promotion potential of everyday transport* (Workshop memo Feb/2020) considered children's mobilities as a disutility – useless time spent between destinations, which could be harnessed to provide quantifiable benefits.

Importantly, the first cycle rationality suggested that parents and other adults would uniformly dictate children's activities and mobilities. Subsequently, creating a better understanding among the parents on the benefits of cycling and changing the parenting culture would yield results. Chiming with earlier studies on pre-emptive health promotion policy (Evans, 2010; Evans and Colls, 2011), the representation of children was the biological matter of their moving bodies, the movements of which were to be planned and monitored by the participants and the parents. At the same time this healthy movement was supposed to be produced through children's *independent* action, which created a major paradox.

In the second cycle, the rationality of cycling promotion geared towards facilitating children's cycling as functional transport and the causal logic turned from socio-cultural aspects towards material and spatial aspects. Chauffeuring as an issue of parenting culture was left on the background, as surveyed and interviewed parents appealed to material, spatial and temporal circumstances, that were considered something concrete and unnegotiable. Workshops discussing the planning and implementation of the practical experiments were especially illustrative of the second cycle rationality.

No critical discussion on the co-research findings on the parents'

views developed in the workshops. This was evidently problematic in an action research setting that seeks to break prevailing rationalities and create alternative imaginaries. Barker (2008) has performed similar research on children's journeys to schools and discussed the challenges of inviting participants to plan research. He found that participants were solely interested in using quantitative methods and found qualitative data irrelevant, which crippled the project's ability to instil change as it remained stuck in a positivist notion of transport. Similarly, in our study the second cycle rationality failed to see great potential in qualitative data. Yet, even though the cycling advocates and club personnel showed little interest towards qualitative methods, the research team wanted to use them and play the active role of the 'knowledge broker' (Wittmayer and Schäpke, 2014). Individual interviews were conducted in addition to quantitative surveying and GIS analyses, but these results did not spark discussion in the workshops. The notion of a knowledge-based intervention was that we should use quantitative methods to ask people what works for them and implement their ideas as carefully as possible.

Following Cox (2019, 41-42) we argue that this kind of an approach remains stuck in prevailing social imaginaries within which cycling futures are created and most probably serves to keep cycling marginalized. Unrecognized or unintended aspects of the parents' reasoning were not scrutinized, even though some of the accounts were clearly contradictory. For example, many parents stated that chauffeuring was the only option because of their work life schedules, even though the whole idea of promoting children's autonomous mobility was to make children less dependent on their parents' schedules. The experiments were not considered means to create new experiences and learning (Laakso, 2019), but means to *test what practical arrangements make children choose cycling* (Workshop memo Dec/2020).

Co-research, experiments and workshop reflections during the second cycle produced a representation of cycling as functional transport to which individuals engage based on rational decision making (Aldred, 2015). Scholars have pointed to the problems of seeing mobility as a desocialized act of movement from A to B and mobile subjects as a uniform group of purely rational and individualised actors (Aldred, 2015; Manderscheid, 2014). Children's role as informants in the co-research was reduced to inspecting objectively recognizable deficiencies in the cycling environment (as cycling routes), whereas adults (parents and participants) were considered making statements on what was actually possible and what was needed. As cyclists, children were assumed to value the functional ends of mobility. This representation of children as 'incompetent adults' (Spinney, 2020, 69) was further solidified by extensive workshop discussions on how children should be educated and equipped to create *legitimate cycling practices, not just fooling around* (Workshop memo Dec/2020).

In the third cycle co-research results pointed that the experiments had been successful, but mostly through mechanisms that were not recognized in the workshops beforehand. Co-researching parents' and children's experiences made the participants assess the functioning of the project in a different way, where autonomy, positive emotions and friendships formed a rationality, that stood apart from instrumental and functional rationalities. The participants deemed that these qualities were something that could only be grasped through experimenting (or more precisely adults supporting children in experimenting), even though the experiments were planned based on a very different rationality and notion of change. Here, our findings indicate that the value of mobility experiments is not in their ability to straightforwardly sort out scalable solutions or best practices, but in their ability to make various social dynamics available for observation (Laakso, 2019).

The third cycle also showed how aiming to promote childhood cycling on specific predefined journeys might be artificial. As children started developing new cycling practices, this was not limited to the journeys to the activities even though this had been the sole focus of the project. Destinations, schedules and distances that had been perceived to dictate children's mobilities, were all renegotiated among children and

parents. Yet, it is crucial to understand that this communal renegotiation was built on a pre-existing set of social ties and sense of community among children and adults, where no-one had to go about changing their views and practices on their own.

Hence, at the end of the project a third representation of children as cyclists emerged, where cycling practices were understood as social and affective and children's experiences and agency were considered central. The logic of change towards more cycling shifted from benefit driven and purely rational and functional premises towards lived and embodied experiences. Following Cupples and Ridley (2008) our results point that people don't cycle (or facilitate their children's cycling) because they want to establish themselves as virtuous citizens that boost sustainable transport and health promotion agendas, but because it works for them *affectively*. This is where Jensen's (2011) notion of 'seeing mobilities' is especially fruitful; it helps us in understanding how power of mobility rationalities is not only a question of governance, but can also work through the kinetic, sensuous and affective. Evidently, these qualities are not easily expressed through language. For example, in the focus groups parents discussed how none of them had really *talked* about the new cycling practices with their children, but stated that merely witnessing the myriad emotions in their own and other people's children had made them supportive of the project despite they had previously pointed out an abundance of practical barriers. Similarly, children in the focus groups emphasised the emotional and social qualities of cycling but struggled to find words on why cycling was 'fun'. Still, knowledge on the emergence of these shared affective and social experiences among children and parents led to the renegotiation of rationalities and representations of the project.

Overall, our findings point to the relational emergence of children's cycling practices and their embeddedness in political, institutional and social relations. National and local sustainable transport policy processes, organised activities as an important childhood institution as well as everyday social relations with peers and parents all played a role in shaping the rationalities of the project. The findings highlight how children actively negotiate their mobilities in these relations through different ways, even more so if their autonomy is supported for example through mobility experiments. In result the alternative ways of seeing mobility (despite their fleeting nature) were considered legitimate among the project organisers and added to defining what a particular mobility practice, as childhood cycling, is.

4. Conclusions

Cox (2019, 41) argues that '[l]ack of reflexivity in scholarship produces normative or imaginative creations of future possibilities that are severely constrained by their cultural origins'. This paper has problematized the 'cultural origins' of policy and research on childhood cycling and CIM and aimed at opening up new future possibilities through expanding our mobility language (Jensen, 2011). We created a space for reflection and reflexivity, which supported a social learning process where rationalities of childhood cycling promotion were called into question. Cox (ibid.) continues that, '[n]ormative suggestions for the benefits of increased cycling rates rarely consider specifically to whom they are addressed or what increased cycling might look like (and require)'. We investigated cycling promotion specifically to children and aimed to find out how knowledge on the experiences of this specific group shaped participants' rationalities on what cycling is.

The argument of the paper is not that there was a normative progression from 'worse' to 'better' rationalities in the process. Rather we see that all three rationalities were in some way necessary and mutually constructive. For instance, our research funding and cycling promotion project funding relied on the instrumental rationality. Second, the notion of children's cycling as functional transport was key in making the project credible and understandable for all parties involved and many experiments were highly relevant for example regarding children's transport safety. Even though we've included critical remarks

that chime with previous findings on co-researching childhood cycling promotion (Barker, 2008), we don't see that the participants were misinformed in applying instrumental and functional meanings and that the third cycle rationality was the 'right' form of understanding. Rather the argument is that rationalities conflict, but also co-exist and fluctuate as mobility policy and governance intersect with everyday life with all its embodied, affective and social properties (Jensen, 2011). As Doughty and Murray (2016, 303) put it, 'movement is a social and cultural practice in constant negotiation and (re)production' and if anything the normative conclusion of this paper is that the hegemony of any one rationality is likely to be detrimental to cycling promotion.

Effectively, this is to say that rationalities have causal properties that influence what kinds of mobility practices are adopted. As Jensen (2011) argues 'rationalities provide a blueprint for logics, i.e. what can meaningfully be seen as (policy) problems, as causes and effects, and who can legitimately govern and who can be governed'. Action research methodology can serve to reveal the causal logics of different rationalities and instil learning that changes participant's views. Our study emphasizes how childhood cycling promotion is likely to remain ignorant on the actual social mechanisms that get children to cycle if only the instrumental and functional rationalities dictate how and why various promotion efforts are implemented and evaluated. If initiatives, policies and research only focus on the outcomes, rather than the processes that lead to them, the change mechanisms remain black boxed and causal properties are falsely attributed (Pawson and Tilley 1997). In our case, children's autonomy, positive emotion and friendships were key mechanisms for the adoption of new cycling practices as they impacted both children and adults. Yet, without co-research and workshop reflection, the participants would have been left ignorant of their causal properties and seen the project as a rational and well-informed effort where instrumental and functional rationalities were applied to make effective interventions. In other words, despite cycling is a fantastic way to address societal problems (as childhood health and transport emissions) and material and spatial functionality of transport evidently matters, the social and affective meanings and experiences that make people cycle must be carefully taken to account in order to make any promotion effort realistic (Pawson and Tilley, 1997).

Analysing the multifaceted causalities of cycling promotion is important for cycling research to remain alert on the unintended consequences, discrepancies and the political nature of creating action oriented and participatory research designs (te Brömmelstroet et al., 2020). This means also consciousness and critical insight on the political context and wider power structures. Relevant to our project, Aldred (2012) has argued how outsourcing cycling promotion to private, quasi-private, and voluntary organisations can serve to side-line cycling as a strategically important transport mode. Spinneys (2020) notion of biopolitics is similarly pertinent in that our project aimed to produce (productive) cycling subjectivities rather than inclusive spaces for children's cycling. Still, at the same time it is evident that when civil society actors are successfully included in policy processes they may bring in important ways of seeing that complement the rationalities of planners and other professionals, and transition to sustainable mobility cannot solely rely on building spaces (Banister, 2008). Thus, further research on cycling advocacy and childhood mobilities from the policy perspective is needed to build knowledge on these ambivalences. Further research is also needed to understand what rationalities and ways of seeing shape childhood cycling promotion across geographies, cultures and genders as here we have focused in the Finnish context and majority of the children taking part in the activities were boys.

Finally, our findings prompt conceptual considerations in relation to CIM. This paper complements the account of Mikkelsen and Christensen (2009) in that CIM is largely a taken-for-granted positive term that obscures the emergence of children's mobilities in their social, institutional and political context. We argue that children's autonomous mobility is a better term, that could be used to avoid such paradoxes, but which emphasizes the centrality of self-imposed conduct. This kind of mobility

language is more likely to create rationalities that are based on more realistic and inclusive representations of children as mobile subjects.

CRediT authorship contribution statement

Jonne Silonsaari: Conceptualization, Formal analysis, Investigation, Methodology, Project administration, Writing – original draft. **Mikko Simula:** Conceptualization, Formal analysis, Methodology, Project administration, Supervision, Writing – review & editing. **Marco Te Brömmelstroet:** Conceptualization, Methodology, Supervision, Writing – review & editing. **Sami Kokko:** Funding acquisition, Investigation, Project administration, Writing – review & editing.

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.

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