

# Defining the accessibility of physical activity

## Tracing the social dimension

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#### Introduction

This article describes an extended typology of accessibility to guide the promotion of physical activity (PA). Besides the previous literature, the article is based on what we have learned in our case study on two suburbs in Finland. The focus of the project funded by the Finnish Ministry of the Environment has been to study equal possibilities to access the facilities and environments that support a physically active lifestyle, particularly among people with

risk factors for poor health, such as low socio-economic status. In the study, surveys and observations on the suburban residents' PA behaviours and Geographic Information System (GIS) data were utilised in a co-development process involving municipal authorities from the target cities. Public sector sport professionals and researchers in the social sciences of sport and geography have worked in a dialogue, utilising study re-

*The promotion of the physical activity (PA) of citizens has traditionally focused on improving spatial accessibility, especially in municipal administrations. However, research evidence indicates that proximity to PA environments is not a sufficient condition for increased PA. This article presents a broader model of the dimensions of the accessibility of PA, developed in cooperation between researchers and the authorities of two cities in Finland. As a result, ten dimensions affecting accessibility have been identified: spatial, temporal, physical/technological,*

*informational, economic, legal/ administrative, cultural/attitudinal, skills related, mental and social.*

*A special focus of attention is on the most neglected dimension: the social. In addition to the dimensional typology, the article presents a view of the PA accessibility process in which the social dimension plays a significant role as a mediating level between the enabling factors and the decisions made by individuals.*

sults to develop tools for a better understanding of accessibility. This article is motivated by a need identified in the co-development process to articulate the different aspects of the actions needed by different actors to promote PA. A broadened view of both the PA and the actors centrally frames the task.

The study of accessibility has traditionally been differentiated according to disciplines, but there is a need to create a more integrative vision to develop a better understanding of the human experience of accessibility that would lead to action – in this case, PA. What makes this task challenging, and where it differs from most of the previous ways of conceptualising accessibility, is that here the aim is to cover the entire field of PA: forms of activity from competitive sports to commuting and shopping; and environments from special purpose buildings to unbuilt natural environments. The widened policy focus, which recognises the

significance of not only sports and exercise but also all health-related PA, in all environments, is necessary from the viewpoint of increasing populations' health and well-being in an era of increasing physical passivity.

A major challenge to the social scientific conceptualisations of accessibility has been that they have not been systematised, pragmatized and made available to various actors and sectors. There are previous definitions of the dimensions of accessibility for PA, but comprehensive and conceptually justified typologies have hardly been developed. Cooperation between different public policy sectors, as well as with other actors, is deemed particularly necessary when aiming to promote equal accessibility. The ethos in the background of this project is that the promotion of PA, especially in socially disadvantaged populations, is not an activity directed from above by policymakers and policy planners. Instead, it is essentially a regionally carried out inclusive activity in which many local actors are involved. In addition to municipal sport authorities, it includes social workers, youth workers, teachers, and the commercial and third sectors, among others. In Finland, the Act on the Promotion of Sports and Physical Activity (2015/390 2§) places



strong responsibility on the public sector for promoting PA. The field that produces places and services and other environments related to a physically active lifestyle and leisure-time PA is, however, wider. Therefore, more coordinated and systematic cooperation and involvement from actors from different fields and sectors would be necessary to use the existing resources to support PA in the best and most efficient way possible. In general, it seems that sports policy has been implemented from a rather limited perspective in terms of accessibility, although equal opportunities for PA have long been a declared goal of action, as stated in the Sports Act. The promo-

tion of PA of citizens has traditionally focused on improving spatial accessibility to PA environments, especially in municipal administrations. Today, extensive research evidence indicates that proximity to PA environments is not a sufficient condition for increased activity (e.g. Kuvaja-Köllner et al., 2022; McCormack et al., 2004; Pot et al., 2021).

As a reference point from earlier literature, accessibility of public services has been conceptualised, for example, by Aday and Andersen (1974). They distinguished the social and geographical aspects of accessibility of health services and also presented social accessibility – which they also called “non-spatial” – as

# Kontula skatepark in Helsinki

Fig. 1 (previous page)

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an important aspect concerning people's opportunities to utilise the services offered in their environment. Concerning accessibility in PA, different dimensions have often been described as perceived accessibility: they are rather related to how people perceive their opportunities than to places or services for PA (e.g. Koppen et al., 2014). However, it is more difficult to conceptualise the promotion of the whole range of PA than a particular public service or specific environment. The conditions of human PA consist not only of the services, places, facilities and equipment available but also of an almost unlimited range of other physical and social environmental factors.

Definitions of accessibility, which would include the sociological perspective and apply to PA in its broad sense, are rare. In the area of culture, whose supply is more focused on services than places, the dimensions of accessibility have generally been more broadly considered than in the area of PA (e.g. Smolny & Gałęcka, 2018). Therefore, here too, the starting point chosen for development work is a classification compiled by an association striving to promote equal accessibility of Finnish cultural services<sup>1</sup>. The dimensions adopted as the initial point of this project were attitudes, communication, pricing, accessibility of the built environment, sensory access, intellectual access, social access and policies/action plans. Preliminary results of surveys directed devel-

opment towards social issues: the availability and usability of environments appeared as rarely expressed PA barriers. Also, discussions in collaborative groups as well as research literature directed development to extend thinking to dimensions not directly related to environments but more to what people think of them. Because the dimensions developed here have evolved in the co-development process, the starting point is a holistic, real-world phenomenon that is viewed in its context. The promotion of PA through the conceptualisation of the dimensions of accessibility of places and services is approached in a broad sense. The dimensions of accessibility can also be seen as a more universally applicable classification, but through its creation process, the typology presented here has been optimised specifically for the promotion of PA. In the following sections, first, the dimensions are presented, then a closer look at defining the social dimension and processual nature of accessibility is taken, and finally the significance and implications of this study are discussed.

## Dimensions

The first version of the typology of dimension was published in the blog of the research project in February 2022. The version had eight dimensions: spatial, temporal, physical/technological, informational, economic, skills related, mental and social. Based on the con-

versations in training sessions and cooperation with authorities, two more were added: legal/administrative and cultural/attitudinal. The dimensions may naturally overlap and be intersectional with each other. For instance, the spatial, temporal and economic dimensions are connected as the geographical location of a facility (spatial dimension) usually directly affects, for example, travel time (temporal dimension) and travel costs (economic dimension). The approach thus has links to socio-ecological modelling, but it is less hierarchical in nature, and the factors may not be as clearly located in a single dimension. *Spatial accessibility*. The dimension of accessibility that is most typical, traditional and perhaps “easiest” to observe is spatial accessibility of services and places. Spatial accessibility is moderately easy to verify with modern GIS. GIS also tend to support well the design and analysis of PA environments and services (e.g. Kotavaara and Rusanen, 2016). By combining spatial information with the PA environments, socio-economic characteristics and demographic structure of regions, for example, one can examine the equality of the provision of places and services. Such mappings of social factors related to spatial accessibility have often been conducted in recent years. So-called contextual regional effects have also been investigated – i.e. whether there is something in the mobility-related infrastructure or other

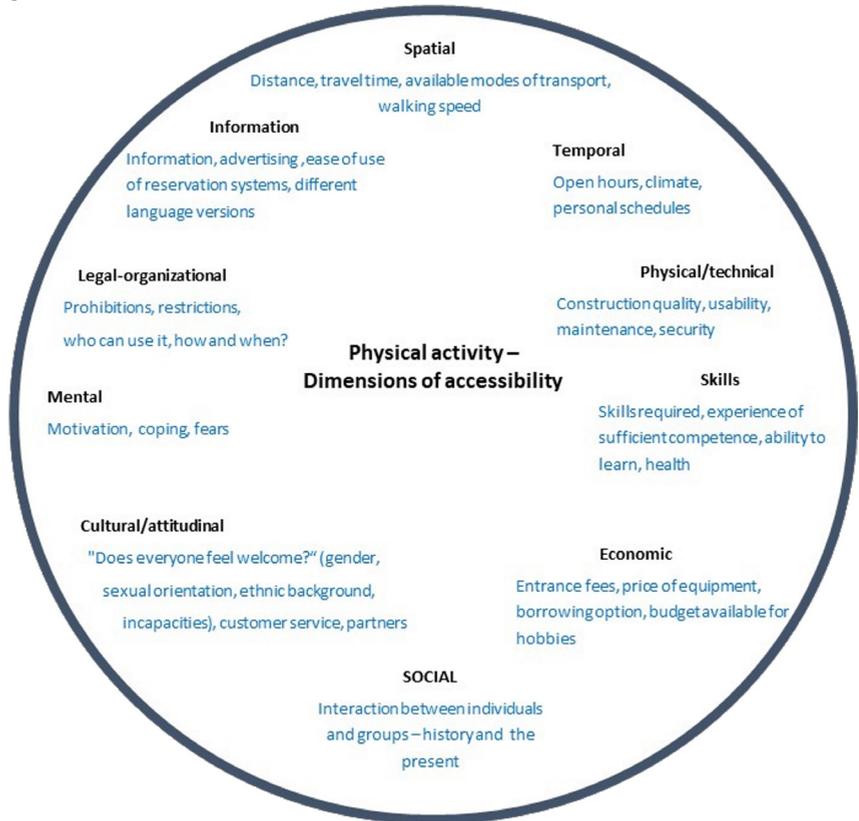
external factors of a certain area that limits or prevents individuals’ choices regarding activity, or whether restrictions are caused by poor transport connections or services, isolating an area from opportunities offered elsewhere. Technically, GIS-based systems already provide a quite good platform for analyses, but content production concerning PA environments seems to not be standardised, and resourcing on data production varies locally, leaving quality and coverage still inadequate.

In spatial analyses, it must also be noted from a public health point of view that the most common PA forms are not associated with environments defined as places of exercise. The most widely practiced forms of PA do not require specific infrastructure, nor are they service-intensive either. According to the survey conducted by Statistics Finland, the most popular forms of PA are walking (practiced by 60% of respondents), training at home (29%) and cycling (25%). Among the ten most popular forms of activity that are more clearly connected to sports facilities are gym training (23%), swimming/aquatic exercise (17%), guided exercise/gymnastics (12%), skiing (9%) and football as the sole team sport (5%). Consequently, a significant proportion of PA occurs outside the scope of built sports environments or sports services (Ruuskanen, 2019).

Another downside of basic spatial analyses is that studies have found a systematic mis-

# Dimensions of accessibility of physical activity with examples

Fig. 2  
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match between objective and perceived distances and accessibility (Vitman-Schorr et al., 2019). Research knowledge on individually experienced accessibility is not comprehensive, but it is clear that it is influenced by different pre-assumptions equally or even more than by actual objective factors (e.g. Zhang and Tan, 2019). Also, these pre-assumptions are not unconnected to the environment: perceived accessibility is related to socio-spatial dimensions, such as access to PA environments within a residential area, knowledge about the territory, social inclusion and perceived security (Lättman et al., 2016).

*Temporal accessibility.* Temporal accessibility is

an obligatory dimension for the individual to the same extent as the spatial dimension; the existence of an environment is irrelevant for PA if it is inaccessible due to opening hours or other temporal limitations. Temporal accessibility may be limited, on the one hand, by resources, laws and rules, and on the other hand, by geographical and climatic factors (Schripke et al., 2021). From individuals' point of view, issues such as work or study and family define the time frame for PA in multidimensional terms. The spatial and temporal dimensions of accessibility are intertwined when examining travel times to environments; however, travel times are also determined through personal resourc-

es. Furthermore, the temporal dimension is a matter of equality. For example, shift workers are worse off in the use of many environments. It is also noteworthy that, intersecting the temporal and spatial dimensions (“temporal distance”) through potential access to ways of passage creates inequality (Li et al., 2021).

*Physical and technological accessibility.* In addition to the spatial dimension, physical and technological accessibility is typically a well-understood and utilised dimension of accessibility, particularly in the design of sports facilities and services and in building or renovation projects. The definition of physical and technological accessibility here is close to what is usually meant by “accessibility”: the solutions needed to enable PA participation in different environments, for example, for people in a wheelchair or with a hearing impairment (THL, 2022). Physical accessibility also includes physical security, i.e. that the environment or equipment does not create a risk of hurting oneself. Technological accessibility, in turn, refers to the point that the equipment associated with the use of the environment is available for all competencies, and, for example, no unnecessarily challenging technical competence is required to make a reservation. In that, technological accessibility comes close to the definition of “usability”<sup>2</sup>. Physical and technological accessibility are clear factors of equality in PA as they are often linked to the

needs of people with a disability.

*Informational accessibility.* Informational accessibility means that information about the conditions of PA is objectively achievable and subjectively intelligible. Based on our surveys<sup>3</sup>, lack of information has been an even more common factor in reducing or inhibiting PA than the lack of places or their poor condition. There are also noteworthy aspects of equality in this finding. In particular, non-native speakers of Finnish or Swedish perceived access to information more often as a limiting factor. Cities are strategically focusing on digital information as the primary means of passing information, and this might have implications for the accessibility of information experienced by older people, for example. However, based on our survey, it was less common for the elderly to feel that a lack of information impeded their PA than for younger age groups. The Finnish Association for Developmental Disabilities<sup>4</sup> summarises the principles of accessibility to information as follows: “Accessibility of information and communication is not only about technology, but also about the clear content of messages so that messages reach all users – including people with disabilities, older people and, for example, immigrants”.

*Economic accessibility.* In general, economic accessibility is a major factor in the equality of PA – the increased costs put families with children in an unequal position. For example,

half of the young people who participated in the latest Finnish LIITU study (Kokko et al., 2021, p. 52) replied that the costliness of the hobby was an obstacle to PA. Although PA can be maintained, if desired, with very modest financial resources, it is also a question of lifestyle choices regarding health behaviour (Hakamäki et al., 2014, p. 5). Public administration efforts have been aimed particularly at those with low incomes by allocating financial resources. In Finland, municipalities have developed grant practices and defined exercise site-specific price categories for different user groups, such as children, students, unemployed people and pensioners (Jyväskylän kaupungin liikuntapalvelut, 2022, p. 3). Local government cooperation within the framework of our project has shown that those deciding on subventions and grants have had to make difficult delineations. In a wider welfare society context, support measures targeted at PA can be seen as a reactive damage repair of economic inequality. A better direction in this regard would involve reducing inequality so that more people would have the financial resources to make independent decisions about their desired forms of PA.

*Legal/administrative accessibility.* Legal/administrative accessibility does not often appear in the literature, at least as defined in more detail. Nevertheless, it is included in this typology to describe the different levels

of rules and regulations that restrict the use of PA environments and services (Ebru, 2015; Koppen et al., 2014; Sievänen et al., 2008). Laws, regulations and other administrative decisions can impose a wide range of barriers to PA in a given location: ice rinks and grass fields, for example, are often mostly occupied by clubs and their organised activities. The use of natural habitats is also governed by different status definitions: in national parks and other nature reserves, activities are restricted in many ways, while in nature parks, public movement is completely prohibited. In open urban spaces, a range of physical activities are engaged in places that are not designed or “intended” for the kind of use (Bach, 1993), and this may also produce disturbance or safety concerns. For example, skateboarding, scooting and even cycling are often perceived as disturbances from the point of view of other users of the space, and there are rules and prohibitions to limit them (Rannikko et al., 2016). Legal/administrative accessibility is therefore generally based on a need to “protect” the environment and people in one way or another or on directing the use of resources.

The accessibility dimensions outlined above are easy for research and governance in the sense that they are easily verifiable, measurable and clear from the point of view of the orientation of interventions. More challenging are the dimensions related to personal charac-

teristics and social interactions, for example, cultural traits or identities.

*Cultural/attitudinal accessibility.* There is ample research on how different ethnic groups – usually minorities – perceive and use different PA environments (Rishbeth, 2001; Morris, 2003; Lisberg et al., 2008; Gentin, 2011; Byrne 2012). More broadly, this dimension can be understood as relating to all equality in the sense of taking into account diversity; for example, religion, bodily composition, sexual orientation or gender should not affect the use of PA environments. This is most clearly linked to customer service, the non-discrimination of which is a fundamental prerequisite for equality. This dimension also has its spatial couplings (geographical location may limit the possibilities of some groups), and it intersects with administrative accessibility (e.g. the activity of an ethnic group may be supported by decisions related to resource allocation). Cultural (in)accessibility can also refer to the fact that certain groups do not “see” certain forms of PA or places as possible for them. Despite increased awareness, this dimension has not yet been canonised in established operating models, at least in Finland.

*Skill-related accessibility.* Skills-related accessibility is a rarely used term. It is practically not thematised as regards PA environments. In digital environments, the corresponding dimension is often described by the term cogni-

tive accessibility, but in PA environments, skills are easier to understand and more descriptive as a term. The skills dimension indicates that services should be achievable regardless of the client's physical or cognitive abilities (Kulutajaliitto, 2022), and as such, it also includes health issues. This dimension is therefore primarily linked to individual characteristics, and the associated limitations cannot be detected immediately from environments. Accessibility in this dimension can be promoted both through interventions targeting individuals (advice, teaching, guidance) and through concrete technical solutions (here, we come close to the dimension of physical and technological accessibility).

*Mental accessibility.* Whereas the skills-related dimension can be seen as a manifestation of observable individual qualities, the mental dimension relates to the functioning of the psyche. It is about experiences and the likelihood of PA. In practice, it is close to psychological definitions of mental activation and motivation (Eitam & Higgins, 2010, p. 951). The relationship between PA and personality structures, such as experiences of ability, perceived barriers and benefits, enjoyment of exercise and social support, has been scientifically verified (Sallis & Owen, 1999). Motivation, with its different definitions, is often at the centre of

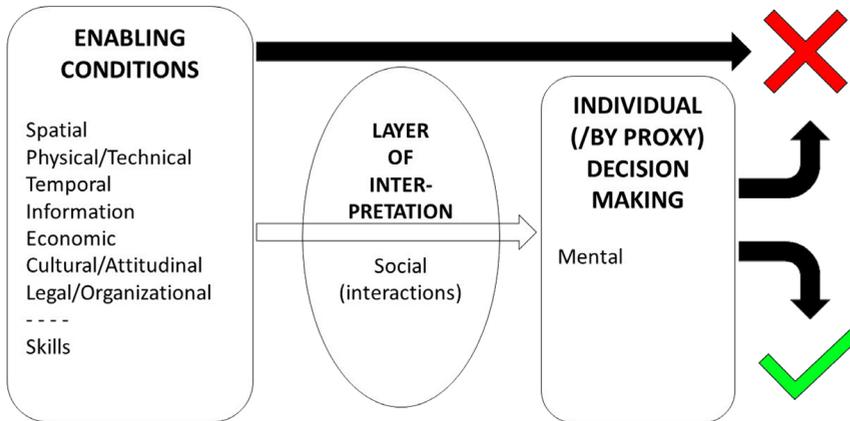
models explaining the realisation of PA, representing the large residual that falls outside the explanatory power of concrete circumstances. However, with mental accessibility, the individual manifestation of other dimensions as motivation is referred – a sense of prowess and an absence of fear. An absence of fear, or security, can be seen both as a property of a physical place and an attribute arising from the interpretation of the individual. In all, mental accessibility is the final layer in the decision-making process, where observations and representations of the environment eventually become structured into potentially activating decisions. The process of bringing about and managing change in this dimension is understandably tricky. While psychological research has attempted to determine how our thoughts and behaviours potentially change through exposure to stimuli, there is still a lack of a clearly verified frame of reference for explaining the changes (Eitam & Higgins, 2010, p. 252).

### **Redefining the social dimension of accessibility**

The ultimate purpose of this review is to develop the idea of the social dimension of accessibility. The concept frequently appears in literature, but its meanings vary. Quite often, the “social” is loaded, in the same way as the mental dimension, as a miscellaneous category of anything that is difficult to measure or present on a map. Also, the approach referred

to above as the “cultural and attitudinal dimension” is sometimes called the social dimension. Even though there are analyses in research literature suggesting that spatial and the other “concrete” dimensions are not sufficient or the most important conditions for the realisation of PA (e.g. Smith et al., 2016), there have been few viable openings to explain what happens between the existence of concrete conditions and making a personal decision.

The “social” in this context also often refers to societal determinants of spatial accessibility (e.g., Vallée et al., 2020). However, from a sociological point of view, it is not about the social in the true sense of the term, i.e. as a dimension related to the interaction between individuals and groups, but about *societal* background factors that are connected to the spatial dimension. In general, the definitions of social accessibility in research reports are quite superficial. Most often, wide residual unexplained variation in the realisation of PA that remains beyond the reach of material factors is conceptualised as a problem of individual motivation. This view fails to consider the fundamental nature of the construction of social reality as an interactive and historical process. Two theoretical perspectives that demonstrate the need for a broader definition of the social dimension are briefly outlined below.



## The accessibility of physical activity as a process

Fig. 3  
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2022

First, the *capability approach* (CA), created by Amartya Sen and Martha Nussbaum, has emerged over the last decades as a credible alternative to traditional economic frameworks for conceptualising well-being. The theoretical base of the CA was introduced by Sen in 1979. In essence, their perspective is that there is a layer beyond material conditions that determines how we can contribute to our well-being. The most important contribution is that it prompts us to ask questions about conditions more profoundly and therefore to focus on alternative dimensions (Sen, 1979). In addition, the CA leads us to define “What are people really able to do and what kind of person are they able to be?” (Roybens, 2017, p. 9). Transferred to the realm of PA, no matter how good and extensive the material opportunities for activity are, it is up to the individual’s ability and desire to utilise them. As Sen’s perspective on capabilities is primarily the individual and the role of the social is thus marginal, the CA is not an actual analytical theoretical background for defining the social dimension but rather a normative argument for why this dimension needs to be developed.

The second theoretical perspective is *social constructionism*. The comprehensive typology of the dimensions of accessibility must take into account the truly social factors (i.e. the interactive factors). A spatially close-by and open space may be experienced as inaccessible for reasons of interaction. In practice, it may be difficult to determine whether the essence of inaccessibility is genuinely social (interactive) or societal (structural, attached to group status). In the spirit of social constructionism, it is essential to transcend purely individualistic explanations. It is primarily through face-to-face interactions that people ascribe meanings to places and situations, build their self-esteem, a vision of their competencies and ability to cooperate, and orient their behaviours, expectations and beliefs (Simmons-Mackie & Damico, 2007, p. 83; Berger & Luckmann, 1967). This implies that there are no absolute truths but constructed modes of explanations and narratives; thus, several different versions of reality can be constructed, deriving from the same objective reality. Or, as Karl Mannheim ([1936] 1976, p. 184) stated, people do not really think fundamentally for themselves but

participate in a generational chain of thinking. This is also a proper starting point for understanding different groups' interpretations of the accessibility of a given PA environment. History is made at every moment; it is not only the past that guides our thinking, but it is a continuous process of interaction between individuals and groups.

The loose framework of social constructionism is fruitful in terms of social accessibility because it can be used to conceptualise the identities of and power relations between different groups. It is not necessary to adopt strict constructionism as a starting point, as it tends to wipe out material conditions so that all that remains are different discourses. The objective is, therefore, to conceptualise the "cause" (perceived inaccessibility and consequent passivity include a philosophically realistic assumption) of the "problem" (the definitions of the environment and the environment arising from the interaction), which can potentially be influenced by interventions. However, it should be kept in mind that, as Hackning and Hackning (1999) suggest, there is a rather steep line between the social sciences and the natural sciences based on the fact that the classifications of the social sciences have a fundamental impact on the subjects of classification: only people are aware of their classifications and adapt their behaviour to this consciousness. Social science, therefore, is already

constructing reality itself socially. However, while avoiding a strict social constructivist perspective, it is thought that there is something profoundly social in the process of forming people's PA habits. For example, strong normativity is characteristic of the Finnish sports culture, and it may be difficult for the "sport insiders" to see the prevailing cultural practices and their privileged social space (Kauravaara & Rönkkö, 2020, p. 238).

### **Accessibility of physical activity – the process**

In our view, the realisation of PA is a process in which the social dimension is a lens-like mediator between enabling factors and individual decision-making (Fig. 1). This means that who people perceive themselves to be, how they react to situations, and what they perceive their action possibilities to be are based on their previous and current social interactions. There are theoretical constructions underlining the meaning of "inborn" motivation, but in this vision, the social has more power in explaining activity than the mental. To be exact, what is usually considered mental is considered socially determined. Defined in this way, the social dimension is the factor usually appearing as a residual when examining the more easily measured dimensions – a "black box". To maximise achievements in promoting PA, the importance of social interaction must also be

taken into account, and interventions need to be targeted to this dimension as well.

There are also situations where the realisation of PA is not socially determined. If some of the relevant enabling factors do not materialise from an individual's point of view, interpretation naturally has no meaning in the process. For example, an inaccessible location or a total lack of financial resources prevents PA without a socially determined individual interpretation (top arrow in Fig. 2). That is, if the process diagram (Fig. 2) is considered an equation (which it is not – it is a heuristic model), all the enabling factors relevant to the form of PA under consideration must be greater than zero. Furthermore, for all forms of PA, not all enabling factors are relevant every time. For example, for low-threshold PA, such as walking, there are not many potential limiting factors. The more the activity is reliant on specific requirements concerning the physical environment, equipment and possibly the participation of other people, the more there are possible restrictions related to the enabling conditions.

Not only is the social determination of PA connected to places and services, but the realisation of PA is also influenced by a wide range of cultural background factors, norms, assumptions, attitudes and prejudices related to socio-economic status, gender, habitus, disability, etc., which are difficult to influence by means of traditional PA policy. Thus, the con-

cept of social in this context would need to be extended to include various manifestations of human and intergroup interactivity and possible influences on them. Although these kinds of extensions of PA accessibility can be found in the literature, they are most often associated with defined environments, such as parks or green spaces. For example, Macfarlane et al. (2009) incorporated subjective aspects into their definition of accessibility and emphasised social dimensions of the concept, such as possible linguistic and cultural barriers, gender ideologies and other socio-economic barriers. Here, however, a tool to understand PA implementation more broadly is developed – across different environments and from different individual starting points.

## Discussion

This version of the dimensions of accessibility was created as a result of the co-development process with the authorities of our target cities and other parties working in the target suburbs. It is therefore not purely academic or theoretical but derived from practice – and still in progress. The objective was to present an extended typology to guide the promotion of PA from a social science perspective, recognising the significance of all health-related PA in all environments and cooperation between various policy sectors and other actors when promoting equal accessibility to PA. The im-

portance of considering the social dimension to better understand accessibility, which leads to PA, was demonstrated.

It is essential from the public health perspective that as many citizens as possible are physically active in their everyday lives, and society's role is to promote this objective through all available means. It has been found that lower levels of PA are associated with lower socio-economic status, and despite all awareness and policy efforts, the situation has not improved (THL, 2022; Borodulin et al., 2016). It would seem that other kinds of interventions, instead of the traditional individualistic education line and project-based development, are needed to break the polarisation development. Here, there is a particular desire to emphasise the complexity and significance of the socially and mentally defined set of accessibility. In public policy, decisions to seek wider accessibility for all or more equal accessibility for a certain population group, and the possible implications of this, are of course also political issues. For instance, extended accessibility may reduce the desirability or perceived accessibility of the environment among its previous users. The Scandinavian outdoor tradition, for example, is often accompanied by an exclusive idea of the more difficult accessibility of the environment and the tranquillity that can be achieved with it (Koppen et al., 2014). This issue is not only relevant to sports or health

policy but also intertwined, for example, with environmental policy: whether we want additional use and the associated increased traffic that may cause ecological or other types of damage in certain environments.

Because of its practical nature, this typology has some marginal assumptions. For example, it is assumed that the surrounding society is in a state where the promotion of equal PA is a relevant task. The primary purpose is to be a tool for achieving the widest possible understanding of the factors that affect people's PA. One difficulty has been that the aim is to create a complete typology that covers the entire field of PA – it would be easier if the task concerned a single predefined environment or a specific form of PA like cycling (Sherriff et al., 2022, p. 2). The primary target audience for this model is PA facilitators in a broad sense, including sport services and urban planners, as well as all other public, commercial and third sector actors who are dealing with people in a manner that allows some kind of impact on PA. The aim of the model is to be a popular, tool-like presentation of a fundamentally very complex process.

The presented view of accessibility or its different dimensions offer little that is completely new – the same factors have been discussed before in this context. However, our cooperation with relevant actors in this context is reflected in the fact that this design has found

## Bibliografia

its audience in Finland. In the Finnish sports administration, there has been a need for a broader perception of the factors behind PA. Our findings and our classification of dimensions have already been noticed and accepted in the administration of our co-development cities. A wider view on accessibility is already visible in the equality documents of the City of Jyväskylä, for example. The City of Helsinki's Sports Department also adopted it in their forthcoming planning document. Because of this contextual limitation, the classification might reflect Finnish society better than other environments. On the other hand, from the conceptual point of view, the dimensions of accessibility could also be more universal – with context-relevant modifications, it might be applicable to areas of activity other than PA.

Act 390/2015. *Act on the promotion of sports and physical activity*. <[https://www.finlex.fi/sv/laki/kaanokset/2015/en20150390\\_20150390.pdf](https://www.finlex.fi/sv/laki/kaanokset/2015/en20150390_20150390.pdf)> (08/22).

Aday, L.A., Andersen, R., 1974, *A framework for the study of access to medical care*, «Health Services Research», vol. 9, pp. 208. <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1071804/pdf/hsresearch00560-0030.pdf>> (06/22).

Bach, L., 1993, *Sports without facilities: The use of urban spaces by informal sports*, «International Review for the Sociology of Sport», vol. 28, pp. 281-296. <<https://doi.org/10.1177/101269029302800214>> (06/22).

Berger, P.L., Luckmann, T., 1967, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*, Doubleday, New York.

Borodulin, K., Harald, K., Jousilahti, P., Laatikainen, T., Männistö, S., Vartiainen, E., 2016, *Time trends in PA from 1982 to 2012 in Finland*, «Scandinavian Journal of Medicine & Science in Sports», vol. 26, pp. 93-100.

Byrne, J., 2012, *When green is white: The cultural politics of race, nature and social exclusion in a Los Angeles urban national park*, «Geoforum», vol. 43, pp. 595-611.

Eitam, B., Higgins, E.T., 2010, *Motivation in mental accessibility: Relevance of a representation (ROAR) as a new framework*, «Social and Personality Psychology Compass», vol. 4, pp. 951-967.

Ersoy, E., 2015, *An integrated approach to enhancing ecological connectivity and accessibility in urban areas: A case study of Sheffield, UK*, University of Sheffield, Diss. University of Sheffield.

Gentin, S., 2011, *Outdoor recreation and ethnicity in Europe—A review*, «Urban Forestry & Urban Greening», vol. 10, pp. 153-161. <<https://doi.org/10.1016/j.ufug.2011.05.002>> (06/22).

- Hacking, I., Hacking, J., 1999, *The Social Construction of What?* Harvard University Press, Cambridge, Massachusetts and London.
- Hakamäki, M., Jaako, J., Kankaanpää, A., Kantomaa, M., Kämpö, K., Rajala, K., Karvinen, J., 2014, *Mikä maksaa?* Valtion liikuntaneuvosto, Helsinki. <<https://www.liikuntaneuvosto.fi/wp-content/uploads/2019/09/Mik%C3%A4-maksaa.pdf>> (06/22).
- Jyväskylän kaupungin liikuntapalvelut, 2022, *Liikuntatilojen hinnasto*. <<https://www.jyvaskyla.fi/sites/default/files/2022-04/liikuntapalvelujen-korjattu-hinnasto-2022.pdf>> (08/22).
- King, C.J., 2015, *Dimensions of access and the ACA: A review of the literature*. <<https://www.linkedin.com/pulse/dimensions-access-aca-review-literature-king-phd-mhsc-fache>>
- Kauravaara, K., & Rönkkö, E., 2020, *Näkymättömyys, marginalisaatio ja eronteot suomalaisessa liikunta-kulttuurissa*. In J. Kokkonen, & K. Kauravaara (Eds.), *Eriarvoisuuden kasvat liikunnassa*, pp. 229-251, Liikuntatieteellinen seura. Liikuntatieteellisen seuran julkaisuja, 175. <[https://www.lts.fi/media/lts\\_julkaisut/julkaisut/eriarvoisuuden-kasvatliikunnassa/eriarvoisuuden-kasvat-liikunnassa-artikkelikokoelma.pdf](https://www.lts.fi/media/lts_julkaisut/julkaisut/eriarvoisuuden-kasvatliikunnassa/eriarvoisuuden-kasvat-liikunnassa-artikkelikokoelma.pdf)> (06/22).
- Kokko, S., Hämylä, R., Martin, L., Rinta-Antila, K., Villberg, J., Simonsen, N., Husu, P., Jussila, A.-M., Vasankari, T., Ng, K., 2021, *Nuorten liikuntakäyttäytymisen Suomessa: LIITU-tutkimuksen tuloksia 2020*. Valtion liikuntaneuvosto, Helsinki. <<https://jyx.jyu.fi/bitstream/handle/123456789/76500/1/Nuorten%2520liikuntak%25C3%2583%25C2%25A4yt%25C3%2583%25C2%25A4ytyminen%2520Suomesa%2520-%2520LIITU-tutkimuksen%2520tuloksia%25202020%2520%282%29.pdf>> (07/22).
- Kotavaara, O., 2016, *Liikuntapaikkojen saavutettavuus paikkatietoperusteisessa tarkastelussa. Liikuntapaikkojen saavutettavuusindeksi (LINDA) -hankkeen loppuraportti*. Nordia Tiedonantoja, Helsinki. <<https://nordiatiedonantoja.journal.fi/article/download/102343/59648>> (06/22).
- Koppen, G., Tveit, M. S., Sang, Å. O., & Dramstad, W., 2014, *The challenge of enhancing accessibility to recreational landscapes*. «Norsk Geografisk Tidsskrift-Norwegian Journal of Geography», vol. 68, n. 3, pp. 145-154. <<https://doi.org/10.1080/00291951.2014.904399>> Raportteja 1-58 > (06/22).
- Kuluttajaliitto, 2022, *Missä mennään sote-palvelut? - Tutkijapuheenvuoroja sosiaali ja terveystieteiden nykytilasta, tulevaisuudesta ja kuluttajapolitiikan keinoista*. <[https://www.kuluttajaliitto.fi/uploads/2022/01/47c329ab-missamennaan\\_2022\\_kuluttajatutkimuskeskus\\_kuluttajaliitto\\_saavutettava.pdf](https://www.kuluttajaliitto.fi/uploads/2022/01/47c329ab-missamennaan_2022_kuluttajatutkimuskeskus_kuluttajaliitto_saavutettava.pdf)> (06/22).
- Kuvaja-Köllner, V., Kankaanpää, E., Laine, J., et al., 2022, *Municipal resources to promote adult physical activity - A multilevel follow-up study*. «BMC Public Health», vol. 22, 1213. <<https://doi.org/10.1186/s12889-022-13617-8>> (08/22).
- Li, X., Huang, Y., Ma, X., 2021, *Evaluation of the accessible urban public green space at the community-scale with the consideration of temporal accessibility and quality*. «Ecological Indicators», vol. 131, 108231. <<https://doi.org/10.1016/j.ecolind.2021.108231>> (06/22).
- Lisberg Jensen, E., Ouis, P., 2008, *Contested construction of nature for city fringe outdoor recreation in southern Sweden: The Arrie case*. «Urban Forestry & Urban Greening», vol. 7, pp. 171-182. <<https://doi.org/10.1016/j.ufug.2008.02.003>> (06/22).

- Lättman, K., Friman, M., Olsson, L.E., 2016, *Perceived accessibility of public transport as a potential indicator of social inclusion*. «Social Inclusion», vol. 4, pp. 36–45. <<https://www.cogitatiopress.com/socialinclusion/article/download/481/481>> (07/22).
- Macfarlane, G.S., Boyd, N., Taylor, J.E., Watkins, K., 2021, *Modeling the impacts of park access on health outcomes: A utility-based accessibility approach*. «Environment and Planning B: Urban Analytics and City Science», vol. 48, pp. 2289–2306. <<https://doi.org/10.1177/2399808320974027>> (06/22).
- McCormack, G., Giles-Corti, B., Lange, A., Smith, T., Martin, K., Pikora, T.J., 2004, *An update of recent evidence of the relationship between objective and self-report measures of the physical environment and physical activity behaviours*. «Journal of Science and Medicine in Sport», vol. 7, pp. 81–92. <[https://doi.org/10.1016/S1440-2440\(04\)80282-2](https://doi.org/10.1016/S1440-2440(04)80282-2)> (08/22).
- Mannheim, K., 1976, *Ideology and Utopia: An Introduction to the Sociology of Knowledge*. International Library of Psychology, Philosophy and Scientific Method. Routledge & Kegan Paul, London. [First published 1936.]
- Morris, N., 2003, *Black and minority ethnic groups and public open space literature review*. OPENspace, Edinburgh. <[https://www.researchgate.net/profile/Nina-Morris-3/publication/240621711\\_Black\\_and\\_Minority\\_Ethnic\\_Groups\\_and\\_Public\\_Open\\_Space\\_Literature\\_Review/links/02e7e5384691ad4e80000000/Black-and-Minority-Ethnic-Groups-and-Public-Open-Space-Literature-Review.pdf](https://www.researchgate.net/profile/Nina-Morris-3/publication/240621711_Black_and_Minority_Ethnic_Groups_and_Public_Open_Space_Literature_Review/links/02e7e5384691ad4e80000000/Black-and-Minority-Ethnic-Groups-and-Public-Open-Space-Literature-Review.pdf)> (06/22).
- Penchansky, R., Thomas, J.W., 1981, *The concept of access: Definition and relationship to consumer satisfaction*. «Medical Care», vol. 19, pp. 127–140.
- Pot, F.J., van Wee, B., Tillema, T., 2021, *Perceived accessibility: What it is and why it differs from calculated accessibility measures based on spatial data*. «Journal of Transport Geography», vol. 94, 103090. <<https://doi.org/10.1016/j.jtrangeo.2021.103090>> (08/22).
- Rannikko, A., Liikanen, V., Harinen, P., 2016, *Spatial resistance of alternative sports in Finland*. In: Evans, B., Horton, J., Skelton, T. (eds), *Play and Recreation, Health and Wellbeing. Geographies of Children and Young People*, Vol. 9, Springer, Singapore. <[https://doi.org/10.1007/978-981-4585-51-4\\_38](https://doi.org/10.1007/978-981-4585-51-4_38)> (08/22).
- Rishbeth, C., 2001, *Ethnic minority groups and the design of public open space: An inclusive landscape?* «Landscape Research», vol. 26, pp. 351–366. <<https://www.tandfonline.com/doi/pdf/10.1080/0142639012009014>> (07/22).
- Ruuskanen, T., 2019, *Perinteinen kävelylenkkeily edelleen suosituin koko kansan liikuntaharrastus*. <<https://www.tilastokeskus.fi/tietotrendit/artikkelit/2019/perinteinen-kavelylenkkeily-edelleen-suosituin-koko-kansan-liikuntaharrastus-1/>> 06/22.
- Robeyns, I., 2017, *Wellbeing, Freedom and Social Justice*, Open Book Publishers, Cambridge. <<https://www.openbookpublishers.com/books/10.11647/obp.0130>> (06/22).
- Schirpke, U., Tasser, E., Ebner, M., Tappeiner, U., 2021, *What can geotagged photographs tell us about cultural ecosystem services of lakes?* «Ecosystem Services», vol. 51, 101354. <<https://doi.org/10.1016/j.ecoser.2021.101354>> (07/22).
- Sen, A., 1980, *Equality of what? The Tanner lecture on human values, Delivered at Stanford University*. <<https://www.suz.uzh.ch/dam/jcr:ffffffffff-df42-7cac-ffff-ffffd4ec9ff2/SEN.1.pdf>> (05/22).

- Sherriff, G., Adams, M., Blazejewski, L., Davies, N., Kameråde, D., 2020, *From Mobike to no bike in Greater Manchester: Using the capabilities approach to explore Europe's first wave of dockless bike share*, «Journal of Transport Geography», vol. 86, 102744. <<https://doi.org/10.1016/j.jtrangeo.2020.102744>> (06/22).
- Sievänen, T., Arnberger, A., Dehez, J., Grant, N., Jensen, F., Skov-Petersen, H., 2008, *Forest Recreation Monitoring – A European Perspective*, Finnish Forest Research Institute, Helsinki. <<https://jukuri.luke.fi/bitstream/handle/10024/535993/mwp079.pdf>> (06/22).
- Simmons Mackie, N.N., Damico, J.S., 2007, *Access and social inclusion in aphasia: Interactional principles and applications*, «Aphasiology», vol. 21, pp. 81-97. <<https://www.tandfonline.com/doi/pdf/10.1080/02687030600798311>> (05/22).
- Smith, K.E., Bamba, C., Hill, S.E., 2016, *Health Inequalities: Critical Perspectives*, Oxford University Press, Oxford. <[https://www.researchgate.net/profile/Clare-Bamba/publication/312086813\\_Health\\_Inequalities\\_Critical\\_Perspectives/links/586f74f708ae8fce491dc293/Health-Inequalities-Critical-Perspectives.pdf](https://www.researchgate.net/profile/Clare-Bamba/publication/312086813_Health_Inequalities_Critical_Perspectives/links/586f74f708ae8fce491dc293/Health-Inequalities-Critical-Perspectives.pdf)> (06/22).
- Smolny, K., Gałęcka, M., 2018, *Efficiency of cultural organizations*. <[https://www.researchgate.net/publication/328318935\\_Efficiency\\_of\\_Cultural\\_Organizations/link/5bc62e33299bf17a1c55cd3f/download](https://www.researchgate.net/publication/328318935_Efficiency_of_Cultural_Organizations/link/5bc62e33299bf17a1c55cd3f/download)> (08/22)
- THL, 2022, *Liikunta*. <<https://thl.fi/fi/web/hyvintointi-ja-terveyserot/eriarvoisuus/elintavat/liikunta>> (05/22).
- Vallée, J., Shareck, M., Le Roux, G., Kestens, Y., Frohlich, K.L., 2020, *Is accessibility in the eye of the beholder? Social inequalities in spatial accessibility to health-related resources in Montréal, Canada*. «Social Science & Medicine», vol. 245, 112702. <<https://doi.org/10.1016/j.socscimed.2019.112702>> (05/22).
- Vitman-Schorr, A., Ayalon, L., Khalaila, R., 2019, *Perceived accessibility to services and sites among Israeli older adults*, «Journal of Applied Gerontology», vol. 38, pp. 112-136. <<https://doi.org/10.1177/0733464817721112>> (07/22).
- Zhang, J., Tan, P.Y., 2019, *Demand for parks and perceived accessibility as key determinants of urban park use behavior*, «Urban Forestry & Urban Greening», vol. 44, 126420. <<https://doi.org/10.1016/j.ufug.2019.126420>> (06/22).

## Note

<sup>1</sup> [https://www.kulttuurikaikille.fi/accessibility\\_what\\_is\\_accessibility](https://www.kulttuurikaikille.fi/accessibility_what_is_accessibility), Updated on 30.8.2022.

<sup>2</sup> <https://dictionary.cambridge.org/dictionary/english/usability>. No date. Read 05/22.

<sup>3</sup> <https://blogs.helsinki.fi/yhdenvertainen-liikunnallinen-lahio/2021/11/19/ikaantyyvien-lahioasukkaiden-liikkuminen-ja-sen-edistaminen/>

<sup>4</sup> <https://www.kehitysvammaliitto.fi/kehitysvammaluokitus/kehitysvammaluokitus/saavutettavuus/>. No date. Read 05/22.