

## A Review of Child-Friendly City Assessment Tools – Are We Really Planning Cities for Children?

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### **Abstract**

*This study conducts a comprehensive analysis of five prominent child-friendly city (CFC) assessment tools, assessing their adherence to UNICEF's criteria. Despite variations influenced by research backgrounds and regional contexts, all tools share the common objective of fostering child-friendly environments. Notably, the research highlights the significant role of child involvement in shaping these tools, underscoring the need for their active participation in both theoretical development and practical application. By identifying shortcomings in existing administrative frameworks, the study emphasizes the urgency of adopting more inclusive urban planning approaches. Integrating children into assessment techniques and implementation strategies is deemed essential for creating cities that authentically address the needs and aspirations of their younger residents.*

**Keywords:** *Child-Friendly City, Assessment Tools, Children Participation, UNICEF Requirements, Child-Friendly Indicators*

### **INTRODUCTION**

In recent years, the concept of child-friendly cities has gained increasing attention in urban planning and design. A child-friendly city is one that is designed and developed with the needs and perspectives of children in mind, and where children are able to play, learn, and grow in a safe and supportive environment. Such cities are characterized by accessible green spaces, safe and convenient walking and cycling routes, child-friendly public transportation, and opportunities for children to participate in decision-making processes that affect their lives. There has been a growing interest in creating child-friendly cities that prioritize the needs and perspectives of children in urban planning and design. One of the key areas of concern in this regard is children's journeys to and from school, which can have a significant impact on their health, well-being, and academic success. However, existing assessment tools for child-friendly cities often do not adequately capture the nuances of this issue or involve children in the planning process. To address this gap, the present study aims to develop and evaluate a new child-friendly city assessment tool that focuses on children's journeys to and from school and incorporates children's perspectives in the planning process.

The concept of child-friendly cities was developed by UNICEF, first in the 1992 Convention on the Rights of the Child, and then in 1996 when UNICEF and the United Nations Human Settlements Programme jointly launched the Child-Friendly Cities Initiative. The concept of child-friendly cities was first introduced by UNICEF in the Convention on the Rights of the Child in 1992, followed by the United Nations Human Settlements Programme and the Child-Friendly Cities Initiative in 1996. Riggio (2002) proposed that the concept of "child-friendly cities" has been developed to ensure that city governments consistently make decisions that prioritize the best interests of children and that cities are designed to provide children with a healthy, caring, protective, educative, stimulating, non-discriminatory, inclusive, and culturally rich environment that addresses their rights. The concept of a child-friendly city is not based on an ideal end state or a standard model but rather is a framework that can assist any city in becoming more child-friendly in all aspects of its environment, governance, and services.

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## **Development of Child-Friendly Cities**

Since the United Nations established the concept of child-friendly cities and launched the Child-Friendly Cities Initiative, many countries have started to explore and build child-friendly cities, and the interests of children are increasingly being seen by adults (Ahmad Musthafa, 2021; Authority, 2004; Bridgman, 2004a; Brown et al., 2019; Corsi, 2002; GÖKmen & TaŞCI, 2016; Malone, 2006; Nam & Nam, 2018; Nikku & Pokhrel, 2013; Riggio, 2002). The growing importance of child-friendly cities mainly because children's needs and aspirations for the city can help make it a better place in the future (Tranter, 2006; Tranter & Sharpe, 2008), the direction of child-friendly cities is in line with the goals of sustainable development (Freeman, 2006; Malone, 2017), and children's learning and mobility skills will be better developed (Whitzman et al., 2009). However, for a city to be considered child-friendly, many relevant factors must be taken into account, including safety, educational resources, living environment, etc. (S. Adams et al., 2019; Arisa Murni & Ahmad, 2022; Boushey, 2002; Carroll et al., 2015; Corsi, 2002; GÖKmen & TaŞCI, 2016; Lehning et al., 2017). These factors are not a figment of the planners' imagination but come from the children who have rights in social life (Assembly, 1989; Eekelaar, 1992; Unicef, 1989).

## **Difficulties Faced by Children in the Process of Urbanisation**

The industrialization and rapid development of cities have resulted in children living in crowded, unsafe, and polluted environments, and compressed the space for children to learn, play and communicate. The high-density living environment has also led to indoor recreational activities gradually replacing outdoor activities (McKendrick et al., 2000). Rapid urbanisation benefits many, but not children. Urban construction and transportation development make children's travel environment unsafe, reducing children's opportunities to move freely, explore nature and make friends with others (Björklid & Nordström, 2007a). Various issues concerning children remain an ongoing problem that needs to be addressed on the rise. These issues include children as victims of attacks, children as perpetrators, and neglect of children's rights (Ahmad Musthafa, 2021). With the increase in car ownership and use, the streets have become busier, resulting in cities that are now unfriendly and unattractive to children (Gill, 2008). In order to protect children from harm in the city, parents often ask children to stay away from play areas (to prevent injuries from strangers) and streets (to prevent traffic accidents), but this approach further aggravates children's unfreedom in the city (Tranter & Sharpe, 2008). According to the handbook on child-responsive urban planning issued by UNICEF for every child, named *Shaping Urbanization for Children*, children are often placed in the most disadvantaged positions, as the built environments of a city are constructed by adults for their own use, to respond to their daily needs. The benefits of urban life bypass children, and the negative aspects can impact them hard (UNICEF, 2019).

Even after measures have been taken, violence against children still occurs frequently in some areas, especially those with lower economic levels and a lack of knowledge and education (Noverman et al., 2018). In addition, children have little understanding of child-friendly city policies (Nam & Nam, 2018). Child-friendly city policies often lack support from central and local municipalities (Oh et al., 2015) and policymakers are often out of touch with children and lack a proper understanding of children's rights issues (Novita, 2016), children's medical services (Gerry Katon, 2017) and social equality awareness of women and children (Bakar, 2017) still need to be strengthened.

## **Development Of Urban Child-Friendly City Assessment Methods**

A child-friendly city is defined as a place where children are allowed to play, meet their friends and travel safely alone (Chawla & Malone, 2003; Tranter, 2006; Whitzman et al., 2009). A city that meets the needs of children often also meets the needs of other residents (Biggs & Carr, 2015; Derr et al., 2017; GÖKmen & TaŞCI, 2016). Sustainable cities are the future of urban development (Batty et al., 2012; Bibri & Krogstie, 2017; Thuzar, 2011), and as children are an important part of cities (Christensen & O'Brien, 2003), their behaviour is influenced by their interaction with the urban environment (Aziz & Said, 2012; Young, 2003), so children's participation plays an important role in building sustainable cities and defines the future of our cities.

Child-friendly cities are service cities that are similar to sustainable communities and sustainable cities in terms of urban scale, proximity, walkability, mixed-use, public space, independent travel and connectivity (Bridgman, 2004a; C. McAllister, 2008; Van Vliet & Karsten, 2015). Child-friendly cities should reflect the needs of children in all aspects and ensure that they are participatory.

There are a number of ways to assess child-friendly cities: many studies look at the definition of a child-friendly city and assess whether the city's development plans are in line with children's needs (Gill, 2008; Wilks, 2010); some studies use children's rights under the law as a baseline for assessing whether children's rights are being safeguarded (Nam & Nam, 2018; Noverman et al., 2018); some focus on children's sense of belonging in the city from the perspective of children's participation (Elkhouly, 2022; Masri, 2018); and there is trend of research on the development of assessment tools, which tend to be comprised of a number of scales (Hong & Lee, 2013).

### **Pluralism In Child-Friendly City Assessment**

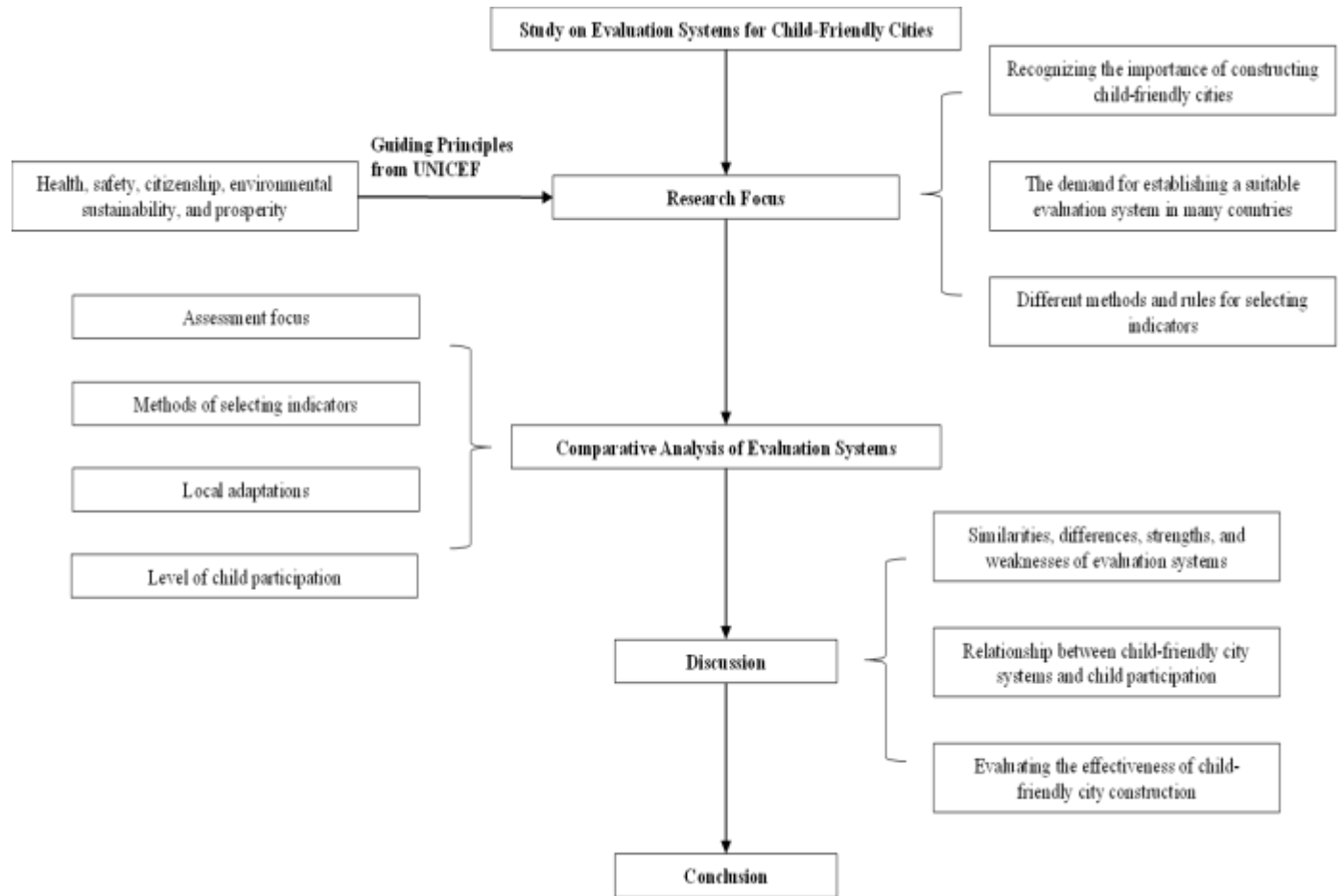
Trends in the development of assessment tools and methodologies for child-friendly cities are mostly context-specific; that is, they focus on the location and context in which they were first developed and used. The assessment and evaluation of child-friendly cities are characterised by both subjectivity and objectivity. Different evaluation subjects (e.g. administrative authorities, experts, users) have different value objectives due to differences in their positions (Meng & Li, 2022). In addition, child-friendly standards are not the same in developing and developed countries, taking into account the unevenness of economic development (Manouchehri et al., 2021; Prada & Sanchez-Fernandez, 2021). There is therefore no harmonised standard or toolkit that can be applied globally.

### **Study Aim and Structure**

As the importance of the construction of child-friendly cities is recognised by more and more countries, the establishment of a suitable evaluation system for child-friendly cities has become the demand of many countries. Different methods and rules for selecting indicators to be included in the evaluation system prompted this study. The assessment tools for child-friendly cities under the guidance of UNICEF generally include the following aspects: health, safety, citizenship, environmental sustainability and prosperity (UNICEF, 2019).

By examining the selection of indicators in the evaluation systems of child-friendly cities established in different countries and regions, this study hopes to find out whether the cities and communities that have reached the conclusion of being "child-friendly" under these evaluation systems have taken into account the participation of children, for example, whether children have been involved in the formulation of indicators and whether children have been able to express their demands in urban construction. And whether the indicators take into account that children are physically and psychologically different from adults.

The paper is structured as follows. First, the research methodology adopted for this study is discussed, followed by a comparative analysis of the evaluation systems based on their assessment focus, the way indicators are selected, local adaptation and child participation, in order to better understand the mechanisms established and the assessment objectives of each evaluation system. The discussion focuses on the similarities, differences, strengths and weaknesses of each evaluation system. The following section discusses the relationship between the child-friendly city evaluation systems and child participation, while assessing the effectiveness of child-friendly city building. Finally, concluding remarks are made based on the findings of the study, focusing on the direction of the development of child-friendly city evaluation systems that emphasise child participation.



**Figure 1** Child-Friendly City Evaluation: A Structural Overview

## METHODOLOGY

The study provides a comparative analysis of the different application practices, evaluation purposes, and evaluation methods of the five existing child-friendly city assessment tools in order to better understand the objectives and focus of the different evaluation systems. The study also highlights the specific interests of children that are taken into account in the selection of indicators by the various assessment tools: health, safety, citizenship, environment sustainability and prosperity. In addition, the study will focus on the scope of application of different assessment tools and children's participation in their practical application, in order to understand which assessment tools are applicable to studies in different research contexts and to develop new plans and requirements for the future development of assessment tools.

The study used UNICEF's highlighted areas of interest for child-friendly urban planning as a baseline for reviewing the assessment system, explaining why these indicators are important for children. Based on this, the indicators will be used to describe the completeness of each assessment system, analyse whether they meet UNICEF's requirements for being "child-friendly", and compare their strengths and weaknesses.

The study was conducted in three phases: an overview of child-friendly city assessment methods, a selection of child-friendly city assessment tools, and an analysis and comparison of child-friendly city assessment tools.

### Overview Of Child-Friendly City Assessment Methods

Following the introduction of the concept of child-friendly cities by the United Nations Children's Fund (UNICEF), a number of countries and cities have begun to make initial attempts to develop assessment criteria,

which are often based on adult perspectives and judgements (Boyden, 2015; Bridgman, 2004b). Over time, researchers and city policymakers began to realise that in order to truly assess whether a city was child-friendly, it had to be seen from a child's perspective. This prompted them to start trying to include children in the assessment process (Ataol et al., 2019). For example, Derr and Tarantini (2016) involved 125 children and young people in their research and divided them into five groups according to their age and for children aged 14-16. Kytta (2004) studied the criteria of a child-friendly environment by using individual interviews and questionnaires in 223 children aged 8-9. Premised on a child participatory perspective, S. Adams et al. (2019) conducted four focus group interviews with 32 children between 13 and 14 years old using a qualitative methodological framework. Li and Li (2017) conducted questionnaire surveys and interviews to determine the children's favourite form of play, open spaces and frequency of participation.

### **Selection Of Assessment Tools For Child-Friendly Cities**

In fact, many studies related to child-friendly cities have also assessed the study area (city or neighbourhood), but most of these studies have not resulted in relevant evaluation scales or specific tools. Considering the practicality and authenticity of the assessment tools, this study has selected five representative child-friendly city assessment tools that are publicly available and have been applied in the context. Each of these tools requires the assessment of child-friendly cities on several dimensions. In addition, the selected tools are explicitly stated to allow and suggest to the researcher the adaptation and upgrading of the tools in the specific scope of the study as an important driver for the development of child-friendly cities.

#### **Child Participation Assessment Tool**

The Council of Europe has increasingly emphasized the centrality of children's participation in decision-making, and made an assessment tool on child participation in 2016, viewing it as essential to both their dignity and holistic growth. Significant initiatives, like the Council of Europe Strategy for the Rights of the Child (2012-2015) and the recommendation on youth participation under 18, incorporated children's insights, highlighting their unique challenges in an adult-centric paradigm. Collaboration with diverse stakeholders, including international entities, civil society, and academia, culminated in the development of the Assessment Tool. Drawing inspiration from the United Nations Convention on the Rights of the Child, particularly Article 12, this tool serves as a practical aid for states, simplifying administrative tasks while emphasizing the importance of genuine child participation. There is a recognized need to shift the perspective, ensuring children's contributions are seen as invaluable and their involvement becomes a consistent practice, not an occasional inclusion.

This assessment tool provides a series of concrete and quantifiable indicators that allow for the systematic exploration of child participation and serve as a valuable guide for countries to evaluate this crucial element. It is a notable effort towards the operationalization and measurement of child involvement. Furthermore, the assessment tool delineates specific protocols for data collection and selection, thereby ensuring voluntary and respectful involvement of children throughout the process. However, it warrants highlighting that this tool proffers merely a foundational assessment structure as a framework, and countries are encouraged to adapt and optimize it in accordance with their unique national contexts. In 2018, two years after the release of this tool, several countries including Bulgaria, Italy, Latvia, Estonia, Ireland and Romania used it locally for assessment purposes (Europe, 2023).

#### **Neighbourhood Indicator Assessment Tool**

Rakhimova et al. (2022) developed a very detailed set of indicator tools targeting children aged 6-14. The indicator tool they have developed consists of six dimensions: home environment; health and social services; educational resources; safety, protection, and mobility; play and recreation; and community life. Considering the validity of the assessment tool, they selected 23 quantifiable indicators and piloted them in their selected communities. Based on the results of the pilot, they further refined the assessment tool proposed by Woolcock and Steele (2008). In this scoring system, a scale of 0-4 is adopted, with a total of 24 points in 6 categories. Neighbourhoods with a score of 18-24 are rated as child-friendly, 12-18 are rated as somewhat child-friendly, 6-12 are rated as not child-friendly and 0-6 are not for children.

The work they have done is a very detailed and practical attempt to use the child-friendly assessment system specifically for the community. Their improved system includes a total of 35 indicators, which includes almost all of UNICEF's requirements for a child-friendly city or environment. The research used this tool in Glendale, where 24.4 per cent of children under 18 years of age. This tool is an improvement on the indicator framework developed by researchers at the United Nations Children's Fund and the City University of New York (Giusti et al., 2010; Hart et al., 2011) and is applicable to United States cities, particularly suited to low-density urban and suburban areas in the United States.

### **Belarus – CFC Index**

Belarus - CFC (Child-Friendly Cities) Index was released in 2007. This indicator was developed by UNICEF in partnership with the Government of Belarus to assess and promote child-friendly policies and practices in Belarusian regions. It is based on UNICEF's global Child-Friendly Cities and Communities framework, incorporating the national context and priorities of Belarus. The tool is used by national and local governments and has been piloted in four cities in Belarus (LOZUYK, 2018). In 2016, Belarusian UNICEF practitioners used this tool to calculate the Child-Friendly Index for 2014-2015 and to suggest improvements. In 2018, the latest CFC Index was released.

The indicator includes a variety of dimensions, ranging from education and health to participation and protection, and it provides policymakers in Belarus with a tool to help them better consider and respond to the needs and rights of children. The tool provides specific scoring methods for each indicator, as well as applying formulas to calculate the parameters. The source of information to calculate subjective indicators could be surveys conducted among children aged 6-12, adolescents aged 13-17 and parents of children aged 0 to 12. For each indicator, the normalized value from 0 to 10 is calculated, where 10 means the most favourable conditions, while 0 means the least favourable conditions (Belarus, 2018).

### **Child-Friendliness Index Revisited (ACPF)**

The "Child-Friendliness Index Revisited" is associated with the African Child Policy Forum (ACPF). The ACPF is a leading not-for-profit policy research and advocacy organization based in Addis Ababa, Ethiopia, with a focus on children's rights and welfare in Africa (ACPF, 2018b). The Child-Friendliness Index (CFI) developed by ACPF was initially introduced in 2008 (Ruiz-Casares, 2010). It serves as a tool to measure and rank African countries based on their performance in realizing children's rights. The index uses a variety of indicators grouped under different clusters, such as life expectancy, health, education, and protection, among others, to assess the general well-being of children in the respective countries (Bequele, 2010).

The "revisited" aspect implies that the ACPF regularly updates and revises the CFI to reflect current realities, data updates, and changes in contexts across African countries. This Child-Friendliness Index has proven to be an essential tool for advocacy and accountability, urging African governments to prioritize children's well-being and rights. By ranking countries, it seeks to encourage competition among nations to improve their child-friendly policies and practices (ACPF, 2018a).

### **TPH Child Friendly Policy Assessment Tool**

The TPH (Toronto Public Health) Child-Friendly Policy Assessment Tool was designed to help evaluate and guide the development of public policies from a child-friendly perspective in 2008 and then revised in 2019. Given that urban environments have a significant impact on the well-being and development of children, the tool serves as an instrument to ensure that children's needs are considered during policy formulation. Toronto Public Health's initiative in developing this tool shows a forward-thinking approach to urban planning, acknowledging that cities need to be designed with children in mind. A child-friendly city is not only beneficial for children but also contributes to the overall well-being and quality of life for all residents (TO, 2023).

The TPH Child-Friendly Policy Assessment Tool covers determinants including health, environment, education, social inclusion, etc. Each of these domains will have specific indicators or questions that will help policy makers and evaluators understand how well a given policy aligns with child-friendly principles. The tool

is an important contribution to the promotion of Toronto's Child-Friendly City Initiative, which seeks to transform the city into a place where all children can learn, play and grow. This assessment toll takes into account the participation of both adults and children and is useful for municipalities or other government bodies to ensure that the rights and needs of children are at the forefront of policy development (TPH, 2019).

**Table 2.1 Selected child-friendly city assessment tools**

Categories	Child-Friendly Cities Assessment Tool				
	Child participation assessment tool	Neighbourhood indicator assessment tool	Belarus – CFC Index	Child-Friendliness Index Revisited (ACPF)	TPH Child-Friendly Policy Assessment Tool
Version year	2016	2022	2018 (first in 2007)	2018 (first in 2008)	2019 (first in 2008)
Users/Audience	primary for policymakers and practitioners, also useful for NGOs, children's ombudspersons, and other stakeholders	community groups, teachers, or other community-based individuals	national and local governments	African Governments	Toronto Public Health
Scope of application	local, national or EU level	low-density urban and suburban areas in the United States	city (capital, oblast, district)	country	city
Pilot region	EU	Glendale	Belarus	Africa	Toronto
Global replicability	No	No	No	No	No
Children ages	under 18	6-14	Mostly 13-17 (also 0 or 6-17)	under 18	0-12
Children participation	interviews	engage children and their parents in a planning process to solve problems	interviews	\	consultations
Methodology	qualitative	qualitative	quantitative	quantitative	qualitative
Rating methods	individual scoring of each indicator	score each of the six categories on a scale of 0-4 and add up the scores	each indicator is calculated according to a mathematical formula and then normalised according to the number of indicators included in each parameter (if 100% of the described target group of children are in favourable conditions according to the indicator, its value reaches 10)	each indicator counted by percentage (%) and normalised, then calculate skewness and kurtosis, and each country scored separately	determinants of each of the 9 impacts evaluated as POSITIVE, NEUTRAL, NEGATIVE, NOT ENOUGH INFORMATION, and N/A, and divided into three priority levels (1:LOW,2:MEDIUM,3:HIGH), and then classify the 9 impacts
Rating classification	0=no relevant works/services/opportunities	18-24: Child-friendly neighbourhood	\	ranking of 52 countries in Africa based on scores	Positive Impacts Prioritized (less important/important/very important)
	1=relevant services in designated regions/groups	12-18: Somewhat child-friendly neighbourhood			
	2=relevant services in most regions/groups	6-12: Not child-friendly neighbourhood			

	3=relevant works/services/opportunities for all	0-6: Neighbourhood is not for children			
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## Comparison Of Child-Friendly City Assessment Tools

This study compares the main features and tool structures of five child-friendly city assessment tools in terms of categories of indicators and development criteria and hopes to share existing experiences and future directions for developing tools for government and relevant staff in child-friendly cities.

### Key Characteristics Of Selected Child-Friendly City Assessment Tools

Table 3.1 lists the main characteristics of all the child-friendly city evaluation tools in order to compare the applicability of each tool, the audience groups and the overall programme. Elements for comparison include users and audiences, assessment area and scope, age groups of children and modes of participation, methodology (qualitative or quantitative), and scoring systems and classifications.

### Time Of Publishment Of Research Tools

The releases of these tools are centred on 2016-2022, and although three of them first appeared in 2007 (Belarus – CFC Index) or 2008 (Child-Friendliness Index Revisited and TPH Child-Friendly Policy Assessment Tool), they continue to be refined and updated by publishers and practitioners in actual use to drive greater utility in these assessment tools. This confirms that research on child-friendly cities, and in particular assessment tools, is at a relatively new stage of development and continues to gain attention in different countries or regions.

### Users of the Child-Friendly Cities Assessment Tool

Users of child-friendly city assessment tools can be divided into two categories: governmental and non-governmental organisations. Belarus - CFC Index and Child-Friendliness Index Revisited are tools used by governments to evaluate their own countries/cities and to explore whether children's rights are being safeguarded in the process of urban development at the managerial level. Toronto Public Health, the publisher of the TPH Child-Friendly Policy Assessment Tool, a public health department under the City of Toronto, Canada, evaluates the friendliness of a city from a child health perspective. The Child Participation Assessment Tool in the EU and the Neighbourhood Indicator Assessment Tool in the United States are intended for use by NGOs to monitor and evaluate whether government efforts and contributions are meeting the requirements of children.

### Scopes of the Child-Friendly Cities Assessment Tool

The most widely used of these assessment tools is the Child-Friendliness Index Revisited (ACPF), which is used to score and rank all countries in Africa. The rest of the assessment tools are place-based (city or neighbourhood) studies.

### Age Groups Of Children

Although the international definition of a child is a person under 18 years of age (Lansdown & Vaghri, 2022), in different studies, researchers tend to focus on a certain age group of children for various practical reasons. For example, Rakhimova et al. (2022) suggest that children under the age of six are still dependent on their parents and children over 14 usually gain more independence. So the Neighbourhood indicator assessment tool targets a group of children aged 6-14 years, as this is the age group most affected by the urban environment. TPH targets a group of children ages 0-12 and has also created a KidScore scoring tool that focuses on ages 5-12.

### Ratings and Classifications



According to Table 3.1, the scoring and categorisation of each assessment tool are given according to the scope and specificity of the study. This also indicates that it should be adapted to the actual situation when different study areas are being used.

### The Structure Of The Selected Assessment Tools

Although the goal of the development of child-friendly cities is the same, to provide an environment where children can move freely and safely, each study has its own understanding of child-friendliness, and even though they are all called child-friendly cities, they are very different (Chan et al., 2016; Racelis & Aguirre, 2002), and therefore the Child-Friendly Cities Assessment Tool has a different format, indicator selection, and context of application. The choice of the five assessment tools for this study was based on the fact that they have a similar structure with different dimensions and indicators. The general structure of these tools is shown in Table 3.1.

**Table 3.1 Comparison of different child-friendly city assessment tools**

Areas of benefit	Child-Friendly Cities Assessment Tool				
	Child participation assessment tool	Neighbourhood indicator assessment tool	Belarus – CFC Index	Child-Friendliness Index Revisited (ACPI)	TPH Child-Friendly Policy Assessment Tool
Health	\	health and social services; access to play and recreation	healthcare and healthy lifestyles; living environment	\	healthy child development; personal health practices and coping skills; access to services
Safety	included in participation	safety and protection; mobility	child safety in the city; providing help in difficult situations in life	protection	physical and social environment
Citizenship	participation dimension) (key	community life	participation of children in social life and decision-making	participation	social inclusion; access to services
Environmental Sustainability	\	home environment	living environment	\	physical and social environment
Prosperity	included in participation	educational resources	education and development; leisure and culture	provision	income and social status; education and literacy
Others	\	\	\	\	gender; culture
Number of dimensions	3	7	7	3	9
Number of indicators	10	35	41	28	27

### Dimensions of Child-Friendly Cities

UNICEF has identified five benefits for children in child-friendly cities: Health – A child-friendly urban environment should offer a clean, wholesome setting that supports children's growth and health. This implies the city should provide clean air, appropriate recreational and sports facilities, and healthy food options; Safety – Children should feel safe in the urban environment, be it at schools, parks, or their homes. This means there must be appropriate traffic arrangements, risk mitigation measures, and child protection policies. Citizenship – This aspect emphasizes that children, as citizens of the city, should be included in the decision-making processes. They should have the right and capability to participate in decisions, fostering civic trust and connectivity; Environment – A child-friendly city should be environmentally sustainable, cultivating an awareness in children to protect their surroundings and become ambassadors for a green planet; Prosperity –

This pertains to providing children with proper education, vocational training, and job opportunities, enabling them to achieve economic independence and success in the future (UNICEF, 2019).

These five aspects are interconnected and complement each other and strive to provide an environment that nurtures, supports, and protects children, allowing them to grow healthily, safely, and prosperously within urban settings.

Neighbourhood Indicator Assessment Tool, Belarus - CFC Index and TPH Child-Friendly Policy Assessment Tool take into account all five dimensions of benefits. The child participation assessment tool developed by the European Union, which, as its name suggests, focuses on child participation, bases its assessment on the extent of children's participation in the city, taking into account children's safety and life skills in the process of participation. In contrast, although the Child-Friendliness Index Revisited (ACPF) also considers the three elements of safety, citizenship and prosperity, they are independent of each other.

### **Identifying Criteria and Indicators**

There are a variety of methods for assessing child-friendly cities. The Convention on the Rights of the Child and other documents issued by the United Nations Children's Fund (UNICEF) are usually the reference base for most assessment tools (UNICEF, 2018, 2019). In addition, staff and professionals involved in urban planning and children's education will propose criteria for child-friendly cities from different aspects (Bridgman, 2004a; Riggio, 2002), and children's views based on their own experiences, as well as parents' demands, are also important.

Each dimension of the assessment tool often requires multiple specific indicators to make a statement, these qualitative or quantitative indicators often have a specific role in studies measuring whether cities are child-friendly. (Rakhimova, 2011). The same dimension can have different indicators in different evaluation tools. For example, in the Child-Friendliness Index Revisited (ACPF), gross enrolment ratios (GER) are often used to measure whether children are acquiring skills through schooling and whether the Government values children's right to education; and in the Neighbourhood indicator assessment tool, the distance children travel to school is an important indicator of Educational Resources. In addition, indicators can be categorised into generic indicators and region-specific special indicators. For example, the proportion of child labour, birth registration and marriage under 18 in Child-Friendliness Index Revisited (ACPF); drug use, smoking and sexuality in TPH Child Friendly Policy Assessment Tool.

Most importantly, the existing assessment tools need to be constantly updated and integrated (Karsten, 2005), and although they have all been used in some specific study areas, almost all authors make it clear that as the city continues to change, the indicators should be upgraded to follow the regular feedback given by the children.

### **Means Of Child Participation**

Since children should have a voice in child-friendly cities, which are centred on children (Masri, 2018; Catherine McAllister, 2008), the study included the question of whether children were involved in the creation of the assessment tool in the comparison. Child Participation Assessment Tool in EU and Belarus CFC Index took the form of interviews with children to ensure that they were involved in the process of selecting and evaluating indicators. Neighbourhood Indicator Assessment Tool in the United States engaged children and their parents in a planning process to solve problems. TPH Child-Friendly Policy Assessment Tool conducted consultations with children. However, the Child-Friendliness Index Revisited for Africa did not have the direct involvement of children. One possible reason for this may be that the tool was developed to score and rank 52 countries in Africa, so all the indicators selected are available from public data.

### **Rating And Classification Methods**

The way in which the Child-Friendly Cities Assessment Tool is scored is based on the purpose of the tool. For example, while both the Child Participation Assessment Tool and Neighbourhood Indicator Assessment Tool are scored, the former scores each of the indicators individually to determine the validity of the research content, while the latter scores the six classifications through specific indicators and sums the scores at the end to

determine the child-friendliness of the neighbourhoods. Similarly, the TPH Child-Friendly Policy Assessment Tool rates each of the 27 indicators and aggregates the priority of the 9 dimensions (both positive and negative impacts) based on the ratings. Belarus – CFC Index and Child-Friendliness Index Revisited use mathematical formulas to calculate the value of each indicator. In particular, the Child-Friendliness Index Revisited ranks 52 countries in Africa, based on the results calculated.

## **DISCUSSION**

This section will discuss whether the assessment tool has been developed and used with due regard to the specificities of the child population and whether there has been sufficient participation of children to ensure that the "child-friendliness" certified by the assessment tool is really child-friendly or just superficially.

### **Forms Of Child Participation**

Hart (1992) defined and divided the scope of youth participation in decision-making into several key steps, from adults' manipulation, window dressing, and superficiality to adults assigning tasks to children but informing children, adults consulting with children and informing, adults initiating joint decision with child, child initiates adults' guidance, children initiate joint decision with adults. However, the first three stages are generally considered to be "fake participation" under the guise of "child participation" activities, and only the last five stages can be described as "real participation" (Wenyue & Ke, 2022). Nam and Nam (2018) have categorized children's participation into two forms: active participation, which involves decision-making and expressing opinions, and passive participation, which involves participating in programs and research for children's guardians.

Among these research tools, interviews, consultations, and invitations to participate in solving urban problems take the form of active child participation, through which children's demands and preferences are directly expressed. Other data acquisition processes, such as counting children's educational rate, can also be described as a form of passive participation by children, but early in the process, children do not express ideas directly, but rather contribute to the research in the form of "numbers".

It is worth noting that this study found that all of this active or passive child participation occurred during the assessment process, but at the stage of building the assessment tool, almost all of the tools were absent, or there was no visible expression of evidence that the child was involved in the construction of the tool. Except for the City of Toronto, where the TPH Child-Friendly Policy Assessment Tool is housed, which developed a separate KidScore defined by Toronto's kids.

### **Development Of Indicators**

Children make an important contribution to urban planning that is often unexpected by planners, even though their needs are often overlooked in the planning process (Arisa Murni & Ahmad, 2022; Björklid & Nordström, 2007b; Sullivan et al., 2021). It is often said that children are the future of the world, but in fact what we need to do is to make children not only the future but also the present (Christian, 2010; Davis, 1998). The selection of indicators for the Child-Friendly Cities Assessment Tool should take into account the relevance to children's rights, and the indicators should be consistent with children's rights as described in the Convention on the Rights of the Child and other relevant child rights frameworks and literature (Carvalho, 2008). Despite the strict requirements for child-friendly cities, indicators are still important because different assessment tools allow for the selection of the most appropriate indicators depending on the study area and the purpose of the study. In addition, child-friendly cities are a globalised proposal, but the situation is often different in developed and developing countries. UNICEF uses different evaluation criteria for child-friendly cities in developed and developing countries. Developed countries focus on the prosperity and development of children in society while developing countries prioritize children's personal safety and food issues (UNICEF, 2018). Therefore,

indicators should be relevant to the specific region where child-friendly cities are being studied, and data should be available, measurable and consistent with local planning directions and policies.

### **Common Indicators and Local Indicators**

Some indicators appear in all assessment tools and are highly relevant to the requirements of a child-friendly city, although they are expressed somewhat differently in different assessment tools, e.g. play, protection, environment and education. Environment-related indicator, for example, is expressed in the Neighbourhood Indicator Assessment Tool as home environment; the living environment in Belarus – CFC Index; and physical and social environment in the TPH Child-Friendly Policy Assessment Tool.

Various countries and regions evaluate and prioritize different indicators and systems when it comes to the Child-Friendly Cities initiative, depending on their local needs and development levels. High-income countries tend to focus on urban planning, safe and green environments, and child participation (Boushey, 2002), while low-income countries prioritize health, nutrition, education, and child protection services (Nikku & Pokhrel, 2013).

Criteria for the development of child-friendly cities are not static but need to take into account local conditions, environment and policies (Sabirah Adams et al., 2019). Several themes are included in the concept of child-friendly cities, such as a healthy environment, well-being, sustainable development and good governance (Cordero-Vinueza et al., 2023). Considering the market-based approach to globalisation that affects the urban environment, the role of children in the urban planning process needs to be specified, and children can be seen as consumers, users, entrepreneurs or producers (Van Vliet & Karsten, 2015). As a result, many child-friendly city assessment methods and tools are tailored to local urban planning and specific groups of children, and it is almost impossible to have an assessment tool that can be applied globally at the same time.

### **Interaction Between Indicators**

Indicators of child-friendly cities tend to interact with each other rather than being completely independent. Each indicator may be directly or indirectly linked to several others, and these linkages may be causal, complementary or interdependent (Rakhimova et al., 2022).

For example, indicators of health, such as clean drinking water and a good food supply, may have a direct impact on the health status of children (Kousky, 2016). In addition, a safe environment (e.g. free from violence and crime, safe transport and good housing) can also have a positive impact on children's health (Garbarino et al., 1991). Educational attainment may affect children's willingness and ability to participate in community activities (Eccles & Harold, 2013). Well-educated children are more likely to know their rights and have a voice in public decision-making. Indicators of social inclusion, such as support for children with disabilities and non-discrimination policies (Devandas Aguilar, 2017), may be linked to health and education indicators. A city that is supportive and inclusive of all children is more likely to provide them with high-quality health care and educational resources (Alquraini, 2011).

These interrelated indicators emphasise the need for a holistic and interdisciplinary approach when assessing and building child-friendly cities. Each indicator should be considered not only in isolation but also in its interaction with other indicators to ensure that children have the best possible experience of living in the city.

## **CONCLUSION**

This study focuses on comparing five child-friendly city assessment tools, reviewing their characteristics, composition, assessment methods and child participation. The purpose of the review is to clarify the focus of the current Child-Friendly Cities research tool, whether it meets UNICEF's requirements, and at what levels it still needs to be improved. In addition, we paid attention to the specific scope and area of application of the different research tools, making it clear that the indicators selected for the assessment tools tend to be different at different scales and for different research purposes, which makes sense, and that they all serve the goal of child-friendly cities.

**Table 5.1 Areas of benefits and sub-indicators proposed by UNICEF incorporated into the child-friendly city assessment tool**

Dimensions		Tools				
Benefit	Sub-indicator	Child participation assessment tool	Neighbourhood indicator assessment tool	Belarus – CFC Index	Child-Friendliness Index Revisited (ACPF)	TPH Child-Friendly Policy Assessment Tool
Health	socio-emotional development		•	•		•
	physical development		•	•		•
	cognitive development			•		•
	clean environment		•	•		•
	food and nutrition		•			•
Safety	protection	•	•	•	•	•
	security	•	•	•	•	•
	risk preparedness		•			
	early warning systems					
	prevention		•			
Citizenship	participation	•	•	•	•	•
	accountability					
	social cohesion	•	•	•	•	•
	civic trust and engagement	•	•	•		
	connectivity	•				
Environmental sustainability	low emissions/mitigation					
	climate adaptation					
	environmental protection		•	•		•
	urban metabolism					
	clean energy					
Prosperity	standard of living		•	•	•	•
	affordability	•	•			•
	life skills and livelihoods	•		•	•	•
	cost-efficient investments				•	
	access to the job market					

It's worth noting that while these tools offer comprehensive frameworks for assessment, they are not without limitations. Some emphasize quantitative metrics, while others lean towards qualitative methodologies; some prioritize governmental perspectives, whereas others amplify the voices of non-governmental entities and, importantly, the children themselves. This diversity in approach, while offering a broadened perspective, also underscores the challenge of creating a universally applicable assessment framework.

However, we found that there is still room for improvement in the assessment tools for child-friendly cities, and the developers of these tools often emphasise the up-to-date nature of the tools. The results of this study are therefore important for the future assessment of child-friendly cities because it provides some possible ideas for improving the assessment tool in the future:

True to UNICEF's principles, involving children in shaping the spaces they inhabit is a cornerstone of a genuinely child-friendly city. However, the extent, method, and depth of this involvement differ across the tools analysed. Active child participation, where children directly influence decisions, remains the gold standard. Still, passive forms, such as utilizing existing child-centric data, also hold value, especially when active participation may not be feasible. The indicators related to children, more consideration should be given to the special psychological and physiological characteristics of children, for example, road safety can not only consider whether there is a traffic light at the junction but also further consider whether the height of the traffic light can be seen by children.

Despite the clear implications of each research tool, we still found that some of the specific sub-indicators proposed by UNICEF were very easy to miss by all the research tools, despite being reflected in the overall areas of benefit. Table 5.1 shows which child benefits dimensions and sub-indicators proposed by UNICEF are included in the different child-friendly city assessment tools, in particular in the benefit of environment sustainability. A common feature of these neglected sub-indicators is that they are assessed in ways that are relatively complex and may require long-term monitoring, e.g. climate, pollution etc. One possible improvement would be to include a measure of vehicle emissions in the indicator containing "transport".

Another thing we noticed is that these tools change and adapt over time. The mutable nature of cities, combined with the dynamic world of childhood, necessitates that these assessment tools remain flexible, adaptable, and receptive to change.

The study sheds light on the complexity of child-friendly city assessments, providing a comprehensive view of current methodologies while highlighting areas for future improvement. Building truly child-friendly cities is an evolving process. Through constant research, reflection and, most importantly, by listening to children, we are getting closer and closer to realising cities where every child feels safe, valued and empowered.

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