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Measuring linguistic justice: A survey of existing indicators and indices*

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Abstract

This article presents a review of currently available indicators and indices for evaluating linguistic justice. These are indicators and indices that can be used in the empirical assessment of the degree of fairness of language policies across different countries. The chapter also reviews other available indices that, while not dealing with the topic of linguistic justice, contain specific indicators on the equity and inclusiveness of language policies. This chapter aims to promote empirical research in linguistic justice.

1 INTRODUCTION

Linguistic justice is a critical yet often overlooked dimension of social equity, addressing the fair and equitable treatment of languages and their speakers. It is concerned with the recognition, preservation, and equitable use of languages in various domains, including education, media, government, and international organisations (see Shorten, 2025; Morales-Gálvez

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In the published version Section 2.5 will be considerably abbreviated.

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& RIERA-GIL, 2019; and ALCALDE, 2018 for reviews). Language policy, therefore, becomes a crucial mechanism for either perpetuating or mitigating linguistic injustices. Measuring linguistic justice involves assessing how language policies affect speakers of different languages in terms of access, representation, and participation in public life. Academic research on linguistic justice, particularly from the normative political science tradition, has largely focused on theoretical frameworks for understanding linguistic rights and equality. Scholars such as VAN PARIJS, 2011 and PATTEN, 2014 have conceptualised linguistic justice as a component of distributive justice from a normative political theory perspective, emphasising the need for fair treatment of linguistic minorities in multilingual societies. However, much of the existing debate has remained abstract, concentrating on normative principles without adequately addressing practical indicators for evaluating language policy.

Despite these theoretical advancements, there is a pressing need for concrete tools to measure the actual fairness of language policy (WICKSTRÖM, TEMPLIN, & GAZZOLA, 2018). Policy makers, such as the High commissioner on national minorities (HCNM) of the OSCE, have increasingly expressed a demand for reliable indicators that can assess the real-world implications of language policies on linguistic minorities. This chapter reviews recent research that bridges the gap between normative theories and empirical assessments, developing robust indices that can be used to compare the degree of fairness of language policy in different countries, thereby informing policy and addressing the demands of international organisations and national policy makers. The chapter concludes with some remarks on the role of interlinguistics and Esperanto in research about linguistic justice.

2 REVIEW OF INDICATORS AND INDICES

This section provides an overview of some recently published indicators or indices that can be utilized to evaluate the fairness of language policies across various countries from a comparative perspective. These indicators are grounded in theory and are general in nature; thus, they are not designed to monitor the implementation of specific legal frameworks or institutional guidelines. However, they can be adapted and employed for such purposes.

2.1 THE INDICATOR OF MINORITY-LANGUAGE RECOGNITION

This indicator compares and quantifies in a consistent manner the degree of recognition of minorities in different jurisdictions. The indicator builds on individual preferences and economic cost-benefit analysis of language policy; see WICKSTRÖM, 2024b and WICKSTRÖM, 2025. The benchmark of the analysis is that each individual is guaranteed the same rights with respect to his or her preferred language as every other individual in society. A deviation from this situation must be motivated; the natural motivation is that the deviation saves resources for society and these savings are more highly evaluated by society than the loss to society of inequalities introduced through the deviation from the benchmark. Relying on the concept of *methodological individualism* the indicator refers to the situation of a representative individual as evaluated by a policy maker looking for an "optimal" trade-off between the size of the total implicit income, including the value of language rights, available to the individuals and an equitable distribution of this income among the individuals; see WICKSTRÖM, 2020 and WICKSTRÖM, 2024a. The indicator can be seen as a measure of the relative weights allocated to the size of the total implicit income, on the one hand, and the equity of its distribution, on the other hand; see WICKSTRÖM

& GAZZOLA, 2025. The relative weights are mirrored in the degree of inequality aversion of the policy maker. The more weight equality receives in this trade-off, the higher is the value of the inequality aversion of the policy maker. To construct the indicator value of a jurisdiction where a certain minority right is denied, we simply ask the question, what is the biggest amount of inequality aversion (the "critical" value of inequality aversion) compatible with the policy maker preferring the situation without language rights for the minority to the benchmark.[1] That is, with a slightly higher degree of inequality aversion the benchmark would be chosen. The main problem in the construction of the indicator is the quantification of inequality aversion. Here, the so-called constitutional economics provides the tools.

2.1.1 A simple illustrative example

We illustrate this indicator with the help of a simple example: in the benchmark situation street signs are displayed in all languages spoken in the society analyzed. The inhabitants enjoy equality with respect to their language.[2] If one of the languages is removed from the street signs, there is a reduction in the costs of the language policy equal to c, since the street signs can now be produced in a cheaper way. This material gain is divided equally among all people, P, in society through an individual tax reduction of the size c/P. At the same time the members of the group whose language has disappeared from the street signs suffers an individual loss with an imputed value b. Everyone, hence, has a gain in after-tax income, c/P, and each member of a minority has a loss, b, due to the disappearance of the one language from public view.

If everyone has the same exogenous individual income, in the benchmark situation, denoted by a superscript 0, everyone perceives having the same implicit income e^0. In other words, the size of the available "cake" is Pe^0 and it is equally divided among all individuals.

In the alternative situation, without rights for the minority, denoted by superscript 1, the n individuals in the minority each perceive having an income equal to:

$$e_n^1 = e^0 + \frac{c}{P} - b \tag{2.1}$$

where the subscript n refers to the minority. Those of the majority, the size of which is N, have an implicit income of:

$$e_N^1 = e^0 + \frac{c}{P} \tag{2.2}$$

The change in the perceived income of a member of the minority, due to the policy abolishing minority rights, is then:

$$e_n^1 - e^0 = \frac{c}{P} - b \tag{2.3}$$

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[1] Strictly speaking, the policy maker will chose the denial of the minority rights if the inequality aversion is equal to or smaller than this maximum. Since we can only observe whether rights are allocated or not, and the morally "good" policy maker is the one with high inequality aversion, we give the policy maker the benefit of doubt and chose the "critical" value to characterize the policy. Based on the policy observed, the revealed preference is the chosen value or a lower one; that is the policy maker might be much "worse" than our chosen value.

[2] For the sake of simplicity, we assume that there are distinct groups of people, all individuals of each group having one preferred language.

and for a member of the majority:

$$e_N^1 - e^0 = \frac{c}{P} > 0 \tag{2.4}$$

The change in total perceived income, in the size of the "cake", is then:

$$(e_n^1 - e^0)n + (e_N^1 - e^0)N = c - bn \tag{2.5}$$

where we used the fact that $P = n+N$. That is, the size of the "cake" changes unless $c = bn$ and the size of the "piece" given to a member of the majority increases and the size of the "piece" given to a member of the minority decreases unless $c \geq Pb$. For the sake of clarity, this is all collected in Table 2.1.

TABLE 2.1 Distribution of implicit income in the two analyzed scenarios

	implicit income			size
	benchmark	alternative	change	
minority	e^0	$e^0 + \frac{c}{P} - b$	$\frac{c}{P} - b$	n
majority	e^0	$e^0 + \frac{c}{P}$	$\frac{c}{P}$	N
average implicit income	e^0	$e^0 + \frac{c-nb}{P}$	$\frac{c-nb}{P}$	
income difference	0	b		

It is useful to analyze three different ranges of the parameter values separately:

1. $c \leq nb$
2. $nb < c < Pb$
3. $Pb \leq c$

In the first case, it is efficient to keep the minority right. By removing it, the size of the total "cake" is reduced and inequality is introduced. We assume that equality and a high total income are desirable. Not taking away the right from the minority, insures a high level of income as well as equality; there is no reason not to give equal rights to everyone. If in spite of that the rights of the minority are removed we assign the value zero to the indicator of recognition.

In the third case, removing the right would make the total "cake" bigger and give a larger piece to all individuals, including the individuals in the minority than in the benchmark. Everyone would be better off without the minority right. Removing the right would be unanimously approved by all individuals, as long as they only look at their own income.[3] If minority rights are not allocated in this case, this causes no infringement on the minority and we hence assign the value of one to the indicator of recognition independently of whether rights are implemented or not.

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[3] This is a Pareto improvement in the language of the economists and corresponds to the difference principle of RAWLS, 1971.

Case two is the interesting one: removing the minority right, we are faced with a trade-off. The size of the "cake" increases by $c - bn$, the piece given to majority members increases by c/P, and the pieces given to members of the minority decrease by $c/P - b$. Inequality increases. Removing one language from the street signs causes a trade-off between average income and equality in society. The smaller is c, the smaller is the increase in total income and the difference in income of a member of the majority and a member of the minority is independent of c and equal to b. In other words, the costs to society due to recognition, that is the foregone income, is greater the greater is c. Not recognizing a minority, is hence a bigger infringement of the minority, the smaller is c.

Before we quantify the indicator of recognition, we look intuitively at the expected properties of the indicator.

2.1.2 Expected properties of the indicator

In order to construct a workable indicator, we have to consider several demographic and technical parameters. In our example, we have the costs of providing rights to a minority (c) and the individual evaluation of the benefit of this right for an individual in the minority (b). In addition, we have the size of the minority (n) and the majority (N). The indicator ($\mathfrak{R}$) then depends on n, N, b, and c: $\mathfrak{R}(n, N, b, c)$. The indicator compares, on the one side, the *per capita* infringement (costs) on the members of the society caused by the provision of minority language rights with, on the other side, the benefits of this policy accruing to the members of the minority. Holding c, b, and n constant, we immediately see that the provision of minority rights causes a decrease in income of a majority individual of the size $c/(n + N)$ and a gain for the minority of size $b - c/(n + N)$. The less numerous is the majority, the greater are the *per capita* costs. The introduction of the right causes a larger *per capita* infringement in a sparsely populated jurisdiction than in a multitudinous one. Not providing rights in a numerous jurisdiction is then a more serious discrimination of a minority individual than in a scares one; the indicator of recognition $\mathfrak{R}$ should, hence, decrease in N, when a certain right is denied the minority.

The dependence of the indicator $\mathfrak{R}$ on c, is given by the opposite argument. If c increases and all other parameters stay the same, the infringement increases. Denying rights when c is small is hence more discriminating than if c is large. The indicator should increase in c. Similarly, if technical progress lowers the costs and rights are not provided, the value of $\mathfrak{R}$ should decrease. The revealed degree of recognition is lower than before in this society. If n increases, also c increases (or stays the same). We now, however, have two competing effects. On the one hand, giving rights becomes more expensive, and the denial of rights more acceptable, but, on the other hand, more people are benefiting from the language rights and a denial is less acceptable. The net effect is on first glance unclear; a closer look, however, will show that the indicator should decrease in n.

The dependence of c on n, that is the cost structure, also influences the indicator. We have policy measures that are more or less proportional to the number of individuals in the minority. The provision of ambulant nursing in the minority language would be an example. We say that the elasticity of the cost function, σ, is close to unity.[4] On the other hand, the costs of street signs in the minority language do not depend on the number of people reading those signs.[5] In this case, the elasticity is close to, or equal to, zero, and the cost function is said to be inelastic. From this we can conclude that the dependence of the indicator on n is stronger, the higher is the value of the elasticity. Finally, an increase in b will make the importance of the right higher for the members of the minority and the infringement of the removal of the minority right bigger. The indicator value will be lower.

We then expect to find an indicator of linguistic recognition in societies not providing full rights for all its minorities that decreases in the size of the majority population N, decreases in the size of the minority population n, decreases in the imputed value of the policy b, and increases in the costs c. For simplicity, the values of the indicator are normalized to the range $[0, 1]$ with zero signifying that only the size of the total income matters to the policy maker and one that only equality matters.

2.1.3 Quantification

In order to quantify the indicator, economic analysis provides the tool of a welfare function. We transfer the implicit income of each individual into utility values, giving less weight to income differences for individuals with a high income than with a low income. The indicator is then the average utility value of all persons in the jurisdiction studied. The form of the utility function determines the inequality aversion.[6] In principle, any (concave) utility function could be used. The choice is determined by the desire to find a simple form of the indicator. Such a simple indicator is given by:

$$\mathfrak{R} = \frac{n+N}{n\sigma + \frac{c}{b}(1-\sigma)} \frac{(1-\sigma)\left(\frac{c}{b} - n\right)}{N} \tag{2.6}$$

It is readily seen that this indicator has the properties discussed in Section 2.1.2. We define $n^* := c/b$ as the size of the minority necessary for efficiency ($n^* b = c$). In the case of bilingual street signs ($\sigma = 0$) we get a very simple formula:

$$\mathfrak{R} = \frac{P\,(n^* - n)}{(P-n)n^*} \tag{2.7}$$

where we used the fact that $P = N + n$. The range for which we have the trade-off, defined above:

$$nb < c < Pb \tag{2.8}$$

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[4] Formally the elasticity is defined as $\sigma = \frac{\Delta c/c}{\Delta n/n}$. That is, the percentage change in c caused by a one percent change in n.

[5] The costs depend on the size of the area where the street signs are applied. We say that he street signs have a spatial, but non-rival cost structure; the ambulant nursing has a rival and spatial cost structure, see WICKSTRÖM, TEMPLIN, & GAZZOLA, 2018.

[6] Formally, the concavity of the utility function corresponds to the degree of inequality aversion, see WICKSTRÖM, 2024a.

becomes:

$$n < n^* < P \tag{2.9}$$

if we divide by b. That is, the indicator takes on values between zero and one.

2.2 THE MINIMUM THRESHOLD INDEX OF LINGUISTIC JUSTICE

The index developed by GAZZOLA, WICKSTRÖM, & FETTES, 2023 is based on the economic theory of publicly provided goods[7] and includes ten indicators scored from zero to one. These are summed to create an overall index. The focus is on the state's role in language policy, emphasizing that governments inevitably make language choices in public services – a concept termed "fundamental language policy". This applies even without formal legal language policies. The index concentrates on three key areas under government control: (1) law and order (e.g., courts, police, legal texts), (2) public administration (e.g., tax and immigration offices), and (3) essential public services (e.g., hospitals, refugee centers).

Due to its influential role, the government bears direct responsibility for language-related inequalities stemming from its fundamental language policy. As a result, GAZZOLA, WICKSTRÖM, & FETTES, 2023 adopt a focused approach to linguistic justice, emphasizing the distributive consequences of government language decisions rather than exploring the broader linguistic landscape. By concentrating on public services that fall primarily or exclusively under governmental authority – while still acknowledging the significance of other areas – the index sets a baseline standard (or "minimum threshold") of linguistic justice. This serves as the foundation for assessing the fairness of language policies, holding governments necessarily and directly accountable for meeting this minimum threshold.

The indicators comprising the index capture three key dimensions of linguistic justice: toleration, accommodation, and compensation. The first two dimensions are grounded in KLOSS'S 1977 distinction between toleration-oriented and promotion-oriented rights (see also PATTEN, 2009). Toleration concerns whether explicit or implicit language policies interfere with individuals' private language choices. Accommodation refers to the degree to which public services are provided in the three primary areas of government action in an inclusive way, that is, ensuring accessibility for those who do not understand the official language(s). Gazzola, Wickström, and Fettes introduce a third dimension: compensation. This involves implementing language planning measures in support of minority languages, even when their speakers are sufficiently proficient in the official language. Minority language speakers may still incur various material and symbolic costs when adapting to the fundamental language policy. Compensation, therefore, aims to address these burdens and uphold their linguistic preferences, regardless of their competence in the official language, whether *de jure* or *de facto*. This is different from a proactive promotion of minority languages

Concerning the first dimension, i.e., tolerance, two indicators are proposed:

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[7] Publicly provided goods and public goods are not synonymous. Publicly provided goods are simply goods supplied by the public sector; we are concerned with how the goods are distributed. Public goods (or collective goods) are goods that can be jointly consumed by several individuals; it is an inherent characterization of the good that matters. The traditional example of a public good is a lighthouse with the help of which any number of ships can navigate at the same time; other examples are national defense or police protection, which usually are also publicly provided. An example of a non-public good that often is publicly provided is ambulant nursing.

1. absence of legislation or measures restricting the use of any language in the private life of residents in the jurisdiction examined;
2. absence of legislation or measures forbidding the written public use of any language by businesses provided that a translation in the local dominant language is available;

Both indicators are dichotomous, and the formula "absence of legislation or measures" allows a positive value of 1 to be given to the indicators. The third and fourth indicators refer to the accommodation dimension. Indicator 3 refers to law and order, while the fourth indicator refers to essential public services.

3. existence of the right to assistance in one's first language during trials in criminal procedures;
4. proportion of centers for asylum seekers in the jurisdiction examined employing staff or linguistic mediators fluent in at least one non-official language relevant to the asylum seekers (corrected for the total number of asylum seekers and the total population of the country);

The rest of the indicators refer to the dimension called compensation. Indicators 5 and Indicator 6 reflect the general practical and symbolic recognition of a minority language by the government:

5. aggregate indicator of recognition of languages of traditional minorities. Potential implementation of explicit legal or administrative rights such as to receive official information and to address and receive answers from authorities in one's first language (e.g. a letter);
6. aggregate indicator of recognition of languages of resident migrants, asylum-seekers and refugees;

Indicator 5 and Indicator 6 analytically are the same; what changes is the target group. The "indicator of recognition" has been defined in section 2.1. Indicator 7 refers to law and order, indicators 8 and 9 to public administration, while the last one refers to the domain of essential public services. Indicator 5 is used as a weight in the calculation of these four indicators.

7. proportion of legally binding documents such as laws and regulations published online per year in the languages spoken in the jurisdiction examined (weighted across citizens and the indicator of recognition of the individual languages);
8. proportion administrative forms of the tax office and the population registry released/ published online per year in the languages spoken of the jurisdiction examined (weighted across citizens and the indicator of recognition of the individual languages);
9. proportion of toponyms (street and place names) available in the languages of the jurisdiction examined (weighted across citizens, the indicator of recognition of the individual languages, and administrative sub-units);
10. proportion of public hospitals and clinics in which consultations are available in the languages of the jurisdiction examined (weighted across citizens, the indicator of recognition of the individual languages, and administrative sub-units);

The index is designed to facilitate comparisons across jurisdictions that differ in both size and the demographic composition of majority and minority populations. To enhance comparability, half of the indicators (specifically, indicators 1 – 3, 7, and 8) focus on status-planning measures whose associated costs are largely independent of the number of beneficiaries or the jurisdiction's overall size. For example, the marginal cost of translating a form for the annual income statement into additional languages is determined primarily by the volume of content to be translated, rather than by the number of users benefiting from the translation. In contrast, indicators related to essential services (notably indicators 4 and 10) involve spatially dependent language planning measures, where costs are influenced by territorial size and are subject to congestion-related constraints, making them rivaling in nature. For instance, the cost of offering multilingual services in tribunals is shaped by the number and geographic distribution of such facilities, as well as by the number of individuals served. Indicators 5, 6, and 9 fall between these two categories, exhibiting characteristics of both. Accounting for the spatial dimension is therefore essential when comparing countries of different sizes and geopolitical contexts. All indicators were developed to be supported primarily through desk-based research using official data and documents. However, the final two indicators may additionally require the use of sample surveys to capture the necessary information.

Gazzola, Wickström, and Fettes recognize that education is another vital public service, though it may also be provided privately. Through acquisition planning – including policies that promote linguistic assimilation – the government can shape the linguistic repertoire of both children and adults. However, measuring the linguistic outcomes of public education, as opposed to inputs like the range of language courses available, poses significant theoretical and methodological difficulties in designing indicators. These difficulties are heightened by the long-term nature of educational effects, whereas the index in question is intended to reflect a specific point in time.

The index has been critically reviewed and tested in GIALDINI, 2023 and GIALDINI, 2024b. The first study (GIALDINI, 2023) tested the data availability and made a commentary on the validity and the comparability of the ten indicators. The second one (GIALDINI, 2024b) attempted to populate the indicators with data from a selected sample of countries, comprising Belgium, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Poland, and Spain. The two analyses have outlined the robustness and validity of most of the indicators, sanctioning them as a useful resource for comparative research and research-informed policy-making. However, some indicators have presented criticalities in the formulation that resulted in difficulties in seeking quality data. Some of these difficulties can be easily solved by using proxies (for instance, Indicator 3 has been populated with "Norms or guidelines on the right to interpretation in a court of law", as the right to assistance in one's first language during trials in criminal procedures exists as part of human rights). For others, a reformulation of the scope of the indicator is necessary. Collecting data on the language skills of staff in refugees' reception centers to feed Indicator 4 may pose methodological challenges due to privacy issues. Shifting the focus to the availability of interpreters during asylum hearings is proposed as an alternative approach. As for Indicator 6, which mirrors Indicator 5 but is applied to allophone groups resulting from immigration; upon conducting a comprehensive review of the data from the sampled countries, it became apparent that there is inconsistent implementation of Indicator 6, primarily at the regional or municipal level. Potential alternatives could include assessing the presence of multilingual web-pages by migration offices or examining language provision by tax offices.

2.3 THE MULTIDIMENSIONAL INDEX OF LINGUISTIC JUSTICE

The Multidimensional Linguistic Justice Index ($MLJI$), developed by GIALDINI, 2024a, is informed by applied political theory and consists of eleven indicators across seven fundamental dimensions of public life. The underpinning theory that informs this index is derived from the application of the capability approach to linguistic justice. The capability approach is a widely applied framework to understand complex phenomena such as poverty and social inequalities (NUSSBAUM & SEN, 1993). In a nutshell, it postulates that the well-being of individuals (and collectives) does not correspond to wealth but to the effective realisations of what they perceive as important: for instance, having access to education, being part of the political life of the country, living a healthy life. Scholars of capability approaches differentiate between the potential capabilities (things that people can do/be) and actual functionings (things that people are or do) and identify the state as one of the crucial enablers in this process. The state can eliminate barriers and promote affirmative actions to ensure that all individuals can achieve a rich and fulfilling life by transforming potential opportunities (capabilities) into tangible actions and states of being (functionings) (SEN, 1994, pages 43–44).

Building on the foundations laid by normative scholars such as LEWIS, 2017, SHORTEN, 2017, CAREY & SHORTEN, 2018, and BRANDO & MORALES-GÁLVEZ, 2023, Gialdini identifies seven areas of fundamental well-being in which language plays a crucial role: expressing one's identity, accessing health care and education, receiving a fair trial, and ensuring equal participation and access in public deliberation. All these aspects of public life require language, and are therefore described as "language-based capabilities". Gialdini defines linguistic justice as an environment where each individual can freely convert their language-based capabilities into actual functionings across these seven areas. Since no country is truly monolingual, a mismatch between the dominant public language(s) and an individual's language can negatively affect access to these fundamental areas. Therefore, evaluating language policies and state interventions in these domains is essential to understanding how inclusive a country, region, or territory is with respect to linguistic justice.

To that goal, the language-based capabilities identified are assigned a quantifiable indicator, which responds to a series of criteria, such as data accessibility and straightforward computations, making it an effective yet quick index to populate.

All indicators can be fed with a yes or no answer. The values of the different indicators are then aggregated through the arithmetic mean, resulting in a unique number that represents the Multidimensional Linguistic Justice Index ($MLJI$) for a given jurisdiction. If the state's actions in a given public policy area allow the capability to be accessed and enjoyed, the value of the indicator is yes. The Y/N answers are then normalised into 0/1 values and aggregated through the arithmetical mean for each linguistic group, resulting in a final $MLJI$ value for that group. The $MLJI$ makes a distinction between two groups, that is, autochthonous and allochthonous minorities. For autochthonous minorities, it considers all 11 indicators presented in Table 2.2, which are aggregated through the following formula:

$$MLJI_{Mn} = (I1 + I2 + I3 + H1 + H2 + J1 + E1 + E2 + PA1 + PA2 + PP1)/11 \tag{2.10}$$

$MLJI_{Mn}$ represents the value of linguistic justice in the eleven dimension for the generic autochthonous minority Mn.

Ideally, both allochthonous and autochthonous minorities should enjoy equal linguistic rights. Nevertheless, in practice, these groups are not granted identity or political rights within

TABLE 2.2 Table of Indicators of linguistic justice (adapted from GIALDINI, 2024a)

Language-based capability	Corresponding indicator(s)
Expression of one's individual or group identity (non-discrimination and recognition)	$I1$ – Existence of laws and regulations enforcing the principle of non-discrimination on the grounds of language $I2$ – Existence of laws and regulations protecting the status of the linguistic minority $I3$ – Presence of double toponyms (place names) OR presence of toponyms in the language of the minority
Access to healthcare with no discrimination	Information on the official website available in the minority language in the following areas of basic preventive medicine: $H1$ – Emergency language planning (i.e. material about the COVID-19 pandemic) $H2$ – Basic health assistance
Access to the judicial system and court proceedings	$J1$ – Presence of court-appointed translator(s) and interpreters for the minority language
Access to education	$E1$ – Existence of bilingual public schools (schools where both the dominant and the minority language are used as the medium of instruction) $E2$ – Possibility of teaching of the minority language as a second language in non-bilingual schools
Access to public administration and essential services	Availability on the official websites of the following forms in the minority language: $PA1$ – Benefits (e.g. universal credit) $PA2$ – Income statement form (e.g. Tax report)
Access to public deliberation	$PP1$ – Presence of a political party (or parties) which operates and campaigns in the minority language

the current paradigm. They are, however, entitled to what are sometimes defined as "supplementary linguistic measures" (SHORTEN, 2022) or "minimal linguistic assistance" (DE SCHUTTER, 2022), which include access to health care, education, social housing, benefits and other social benefits. Hence, considering instead the generic allochthonous linguistic minority Mm, who is part of the long-term migrant groups, six indicators are relevant. These are related to the dimensions of health ($H1, H2$), judicial security ($J1$), education (but only $E2$), and access to essential needs provided by the public administration ($PA1, PA2$). The corresponding formula would then be:

$$MLJI_{Mn} = (H1 + H2 + J1 + E2 + PA1 + PA2)/6 \tag{2.11}$$

The numerical values taken by the $MLJI$ (any between 0 and 1) are then distributed onto four equal tiers: low (i.e. values from 0 to 0.24), medium-low (0.25 to 0.49), medium-high 0.50 to 0.74, and high (values from 0.75 to 1) levels of linguistic justice. The score of the $MLJI$ corresponding to each minority within a country is depicted using a four-tiered box. The choice of this visual representation is driven by its accessibility and the capability to compare disaggregated data among diverse linguistic groups. The outcome is a four-tiered box resembling a traffic-light. Upon visually examining scatter plots across various jurisdictions, distinct levels of linguistic justice become apparent. Each dot on the plot corresponds to a unique linguistic minority, facilitating the identification of potential asymmetries in the treatment of different linguistic communities.

The score of the $MLJI$ corresponding to each minority within a country is then depicted using a four-tier box. The outcome is a four-tiered box where the index values scored by different minority groups are placed:

Tier 1: Low levels of linguistic justice (MLJI values from 0 to 0.24)

The country has little to no policies in any sector to include linguistic minorities in the public sphere. The language-based capabilities they can actually enjoy are almost non-existent. Minorities face severe difficulties in accessing public goods and services in their preferred language, and even the recognition of the symbolic aspect of their language – such as its institutionalisation as a minority language – is either absent or highly limited.

Tier 2: Medium-low levels of linguistic justice (MLJI values from 0.25 to 0.49)

Some services are available, but overall, minorities still struggle to access fundamental goods and services. The symbolic aspect and communicative functions of the language remain very limited. Some capabilities are accessible, but overall, the freedom to use one's preferred language is not fully realised.

Tier 3: Medium-high levels of linguistic justice (MLJI values from 0.50 to 0.74)

Linguistic minorities have some presence in the public sphere and can access several public goods and services in their preferred language and hence can enjoy several their language-based capabilities.

Tier 4: High levels of linguistic justice (MLJI values from 0.75 to 1)

Most or all public goods and services are offered in the minority language, with countries scoring 1 being fully bilingual, and the linguistic minorities can reach full freedom in their language-based capabilities.

The choice of this visual representation is driven by its accessibility and the capability to compare disaggregated data among diverse linguistic groups.

To better understand how the $MLJI$ works in practice, let's consider an example. Country X provides all services in the language of the first traditional minority ($TML1$), but the second minority $TML2$, does not have double toponyms ($I1$) or bilingual schools ($E1$). At the same time, Country X provides interpreters and translators in court in the languages of all three long-term foreign residents (LTR), but the provisions of other services for these groups are very asymmetric: but $LTR1$ can benefit only from an emergency language policy, the language of $LTR2$ is also taught in schools as a second language, and it is used in official forms to requests unemployment benefits and to submit the Income Tax report. People belonging to $LTR3$ can use their language to request these two services, but their language is not taught in schools.

According to this picture, the $MLJI$ of the various groups is obtained in Table 2.3 and depicted in Figure 2.1.

TABLE 2.3 $MLJI$ values for Country X

	Country X				
	$TML1$	$TML2$	$LTR1$	$LTR2$	$LTR3$
$I1$	1	1			
$I2$	1	1			
$I3$	1	0			
$H1$	1	1	1	1	0
$H2$	1	1	0	0	1
$J1$	1	1	1	1	1
$E1$	1	0			
$E2$	1	1	0	1	0
$PA1$	1	0	0	1	1
$PA2$	1	1	0	1	1
$PP1$	1	0			
SUM	11	7	2	5	4
$MLJI$	1.00	0.64	0.33	0.71	0.57

With the exception of $LTR1$, which scores in Tier 2 (medium-low level of linguistic justice), most of Country X's minorities have a quite good level of linguistic justice. The visual representation of the data helps us to see how most of the linguistic groups are skewed towards the right, enjoying medium to high inclusion within the society. At the same time, it is quite easy to spot the "outlier" value of $LTR1$.

The use of a "traffic light" system to represent raw data enables decision-makers to interpret the findings based on their own values – for example, prioritising either small, endangered minorities or larger, more active language groups. This study offers a descriptive method to assess linguistic justice while remaining neutral on normative judgments, which are left to the reader.

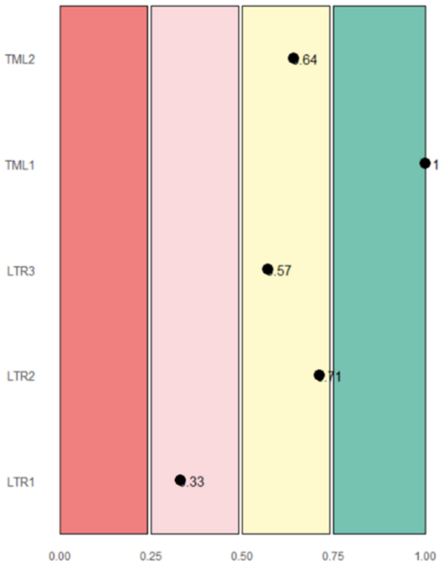

FIGURE 2.1 $MLJI$ Visualisation for Country X

2.4 THE INDEX OF LINGUISTIC FREEDOM

The “Language freedom index” (LFI) is a comprehensive evaluation tool designed to assess the degree to which individuals can participate in the political, social, and cultural life of their country using their preferred language. Established initially by DUBINSKY & STARR, 2022, the index underwent further development and empirical testing on a diverse range of countries by DUBINSKY, GAVIN, REES-WHITE, SCUCCHI, & STARR, 2025. In its first version, the primary objective of the index is to identify instances of governmental linguistic restrictions that may be perceived as acts of cruelty, specifically targeting non-dominant ethnolinguistic groups and analyzing their experiences of linguistic accommodation or obstruction relative to their population size. In its expanded framework, the LFI evaluates the extent of respect for language rights, a concept often interchangeably referred to as linguistic justice by DUBINSKY, GAVIN, REES-WHITE, SCUCCHI, & STARR, 2025. This index is framed to facilitate systematic comparisons across various language-policy scenarios and situations of language conflict. The LFI encompasses a set of seventeen distinct indicators organized into three main categories: (i) legal rights and representation, (ii) education and health-care access, and (iii) media, culture, and religious expression.

The first category, focused on legal rights and representation, comprises seven specific indicators that scrutinize civil rights and political representation, emphasizing language policies that are institutionalized within legal contexts. This includes monitoring the usage and visibility of a language in official documents, court proceedings, government services, and among government officials and military personnel. Additionally, it assesses whether individuals within these communities can legally record their names in their native language. The second category pertains to “Education and healthcare”, which contains four indicators that measure the availability of educational and health-care services in specific languages. It examines whether primary, secondary, and tertiary educational institutions, along with health-care services, provide instruction or care in the languages spoken by non-dominant groups. The final category, encompassing media, culture, and religion, includes six indicators that capture significant aspects of linguistic freedom. This part of the index evaluates the usage of various languages in television programming, news media, films, literature, music, and religious services, highlighting the cultural dimensions of language rights.

Distinctively, the LFI does not adhere to a singular theoretical framework; instead, it is designed to address a broad spectrum of issues within the sociolinguistic landscape relating to language rights. Each of the seventeen indicators can take on one of three categorical values: -1 (indicating that the language is either absent or actively suppressed), 0 (denoting that the language is sometimes present, often at a regional level), and +1 (indicating that the language is consistently present and widely used). The scores assigned to each variable are subsequently aggregated to formulate a singular indicator, reflecting the overall level of language freedom accessible to a given linguistic community within a country. Notably, language freedom scores are computed for each language community that constitutes at least 1% of the population of a country, utilizing a weighted mean that balances the averages across the three categories of rights. In this way, the LFI provides a nuanced and quantitative assessment of language freedoms, aiming to inform policy discussions and promote linguistic rights on a global scale.

2.5 OTHER INDICATORS

Another significant contribution in advancing the assessment of language policies as a crucial element of political stability is the report "Mapping Integration Indicators: A Reference Tool for Evaluating the Implementation of Ljubljana Guidelines-based Policy" (MEDDA-WINDISCHER, SPILIOPOULOU ÅKERMARK, SCHULTE, & CRAMER MARSAL, 2020). This is the result of a project that has seen the cooperation of EURAC Research, the Åland Peace Institute and the University of Heidelberg who conducted a scoping review of indexes evaluating the nine policy areas of the Ljubljana Guidelines (LG) for the protection of minorities published by OCSE High commissioner on national minorities. These are the following: anti-discrimination and full and effective equality, citizenship, effective participation, language, education, security and law enforcement, access to justice, media, diversity of symbols and their use in the public domain. The final selection includes 14 indices, the majority of which are applied at the national or subnational level, and that are fed by quantitative, qualitative or mixed data. The indices had been created by academic institutions, research centers or governments; some of them are linked to specific projects and have not been populated since the end of the project itself, but they include interesting insights on evaluation.

2.5.1 *UK HO* – UK Home Office, Indicators of integration framework (2019)

The *UK HO* can be used at the national and subnational level and was indeed developed to provide comparison among devolved nations. It is a composite index composed of several indicators of integration in several areas: Work, Education, Housing, Health and social care, Leisure, Social bonds – with those you share a sense of identity, social bridges – with people from different backgrounds, Social links – with institutions –, Language and communication, Culture, Digital skills, Safety, Stability, Rights and responsibilities. The data is mixed, qualitative and quantitative, and the target group is longstanding minorities and migrants. At the time of writing, this index has not yet been applied.

Reference to language is made with respect to *LG* Language, with the indicator "Awareness of key institutions, rights, supports and pathways to participation" (within language rights), and in the *LG* Access to Justice with the indicators "percentage of population: 1) utilizing affordable legal advice; 2) reporting knowledge of rights to interpreting services in public services; 3) reporting trust in the police."

2.5.2 *ACCEPT Pluralism* – European University Institute (2013)

The *ACCEPT Pluralism* was a project realised by a consortium of universities across Europe to address issues related to religion and ethnic integration in modern societies. Within the *ACCEPT* project, a series of Tolerance indicators had been developed, mostly looking at the inclusion of minorities in schools. However, one indicator focused on local policies of exclusion of minorities and immigrants in public life. This *ACCEPT* indicator is made of six sub-indicators evaluating policies in the following areas: religious accommodation, work rights, institutions for representation of migrants and voting rights. The indicator can be used at different level of jurisdictions, national and subnational, but also international, specifically across European countries. The target groups are both longstanding minorities and migrants – the project mentions both new minorities but also integration of longstanding ones, such as the Roma people, and it references the importance of language within civic education about diversity.

ACCEPT Pluralism mentions of language in the *LG* Education with the indicator "Integration of the country's minorities in the history curriculum", which includes minority language teaching as a second language.

2.5.3 *MIPEX* – Migrant integration policy index (2004-2015)

MIPEX is used only at the national level, and relies on quantitative data. The target population is immigrants only; in fact, the areas investigated by the *MIPEX* cover non-discrimination on racial, ethnic, nationality, and religious grounds, but not on language grounds. Within the report, the *MIPEX* is included as a "Anti-discrimination and full and effective equality" (*LG* 30 and 31).

The *MIPEX* covers eight integration policy areas: Labour market mobility; Family reunification; Education; Political participation; Permanent residence; Access to nationality; Anti-discrimination; and Health. Language is mentioned in the *MIPEX* indicators, particularly in the areas of Education ("Presence of language support for newly arrived pupils"), and Access to nationality ("Language proficiency requirement for citizenship").

2.5.4 *MCP* – Queen's University, Migration policy index (2006-2016)

The *MCP* is used at different levels of jurisdictions, it uses quantitative data. Despite the name, the index is used both for ethnic minorities and immigrants, identifying three categories of target groups: immigrants, long-standing minorities, and indigenous peoples, and developing tailored indicators for each group. The goal of *MCP* is to rank multicultural policies according to eight areas: constitutional, legislative or parliamentary affirmation of multiculturalism; the adoption of multiculturalism in school curriculum; the inclusion of ethnic representation/sensitivity in the mandate of public media or media licensing; exemptions from dress codes, Sunday-closing legislation, etc.; allowing dual citizenship; the funding of ethnic group organizations to support cultural activities; the funding of bilingual education or mother-tongue instruction; affirmative action for disadvantaged immigrant groups. Indicators are posed as Yes/No questions and then normalized into 0-1.

Created by a Canadian university, unsurprisingly, the issue of language is present in the index, and one of the indicators itself looks at bilingual education or mother-tongue instruction.

While it is quite clear and concise in its methods, the MCP has been flagged by EURAC researchers as covering only a few regions, and then only in an arbitrary fashion.

2.5.5 EURAC – Indicators for assessing the impact of the *FCNM* in its state parties (2009)

The EURAC indicator has been developed to evaluate the policies that implement the obligations of the Council of Europe's Framework convention for the protection of national minorities ($FCNM$), hence, it was originally designed for ethnic minorities mostly but it can also be used for immigrants. The index does not give any indication of the level of authorities to be involved, hence, it can be presumed to be applied to both national and subnational, and uses quantitative data. The EURAC index includes indicators on special measures, direct and indirect discrimination, adequate legal remedies, monitoring judicial decisions, the training and sensitisation of police forces and information campaigns among citizens on legal remedies against discrimination.

Within the EURAC index, there are many indicators that make specific reference to language. We present them by the dimension of the LG.

LG Antidiscrimination and full and effective equality

Checking which grounds other than belonging to a minority, such as ethnicity, race, colour, language, religion or belief, national origin, are included in the anti-discrimination legislation

LG Participation in public affairs

1. Verifying whether language proficiency requirements are imposed by law on candidates for parliamentary and/or local elections
2. Checking whether the use of minority language(s) by elected members of regional/local governmental bodies during the activities related to these bodies is guaranteed by law

LG Participation in socio-economic life

Verifying whether domestic law provides for any specific incentives for employers to invest in training and language skills for workers belonging to minorities

LG Access to justice

1. Legal provisions concerning the use of a minority language: a) in contacts with the judicial authorities; b) as the language of the process or the language in the process
2. Number of translators and interpreters employed at a court, and provision of translation/interpretation free of charge.

LG Diversity of symbols

1. Number of public signs in national minority languages
2. Checking whether a legal provision on the use of the language(s) of minorities (in accordance with the language system) for personal names and/or topographical indications is foreseen, and, if so, whether it is based on a quota or other numerical limitations (i.e. contingents)

2.5.6 *ICRI* – Berlin Social Science Center, Indicators of citizenship rights for immigrants (2012-2019)

Similarly to the $MIPEX$, the $ICRI$ was designed to gauge the integration policies towards new minorities, e.g. immigrants. It allows for both national and subnational comparison and uses qualitative data, analyzing policies across eight areas of policy: nationality acquisition, family reunification, expulsion, anti-discrimination, public-sector employment for non-nationals, political rights for non-nationals, cultural rights in education, as well as other cultural and religious rights. This set of indicators has been populated only within the time frame of the project (same as with *ACCEPT Pluralism*). Secondary data was collected from policy documents, legal texts, secondary literature, internet websites, and expert information, and then coded as more or less restrictive in terms of accessibility of rights for migrants. Reference to language is made in the LG Media, with the indicator "Programmes in immigrants language in public broadcasting".

2.5.7 *ICI* – Council of Europe, Intercultural cities index (2019)

This index includes indicators about the following language-related variables, mostly relevant for language policies targeting acquisition planning, that is, (i) the existence of language training in the official language(s) for hard-to-reach groups (such as non-working mothers, unemployed, retired people, and so on); (ii) teaching migrant/minority languages as part of the regular curriculum at schools; (iii) teaching migrant/minority languages as a mother tongue course for migrant/minority children only; (iv) teaching migrant/minority languages as a regular language option available to everyone; (v) support for private/civil sector organisations providing language training in migrant/minority languages.

In concluding Section 2.5, most of these indicators do not directly address issues related to linguistic diversity, however, they contribute to the literature on indicators of inclusion, and they can be used as proxies or in a cross-sector analysis when evaluating linguistic justice. For instance, the $MIPEX$ provides crucial information on the access to healthcare of migrants, which is known from the literature that be hindered by language barriers.

3 CONNECTION TO ESPERANTO AND INTERLINGUISTIC RESEARCH

In the landscape of research on linguistic justice, the position of the Esperanto and its related field of study, interlinguistics, its related field of study, is worth noticing (see ALCALDE, 2018, pages 126–134 for a review). Esperanto is a constructed international auxiliary language, was created by L. L. Zamenhof in the late 19th century with the goal of fostering global communication and reducing linguistic inequality (FIEDLER, 2024). Unlike natural languages, Esperanto is designed to be neutral, culturally unbound, and easy to learn, making it a compelling candidate for a *lingua franca* that promotes equality among speakers of different languages (PIRON, 1994; FETTES & BOLDUC, 1998).

Esperanto's regular grammar, phonetic consistency, and lack of irregularities provide a level playing field for speakers from diverse linguistic backgrounds (FIEDLER, 2010; TONKIN, 2015). It is not surprising, therefore, that "interlinguists were among the first who cared about linguistic justice, and Esperanto speakers have naturally researched and documented linguistic rights" (ALCALDE, 2018, page 126).

The Prague Manifesto, adopted in 1996 by the World Esperanto Association (UEA), reaffirmed the Esperanto movement's commitment to linguistic justice, cultural diversity, and democratic communication. Since then, the UEA has actively advocated for linguistic justice through initiatives aimed at raising awareness about linguistic discrimination, promoting multilingualism, and supporting endangered languages. UEA collaborates with UNESCO and it is active in international forums, e.g. in the United Nations, to highlight linguistic inequalities and propose policies that promote equitable and sustainable language policy (MCENTEE-ATALIANIS & TONKIN, 2023). Moreover, the UEA's advocacy efforts underscore the role of Esperanto as a neutral communication tool that can help balance power dynamics in international discourse, thereby advancing the broader objective of linguistic justice.

4 CONCLUSIONS

This chapter delves into the complex landscape of linguistic justice by examining a variety of recent indicators and indices that seek to measure fairness in language policy. It highlights both the potential strengths and inherent limitations of current frameworks used to assess these indicators. Despite the rich theoretical discussions surrounding the concept of linguistic justice, a significant gap persists between these theoretical insights and their practical application in policy-making settings.

To effectively bridge this divide, there is a pressing need for the development of more comprehensive empirical analyses that can provide actionable insights for policymakers. This includes stakeholders from international organizations, such as the Organization for Security and Co-operation in Europe (OSCE), particularly its High commissioner on national minorities, who play a crucial role in advocating for language rights in multilingual and multicultural contexts.

Future research should emphasize not only the refinement of existing indices to enhance their reliability and validity but also the exploration of innovative methodologies. This should involve integrating both qualitative and quantitative data, thus enabling a more nuanced and holistic evaluation of linguistic justice. By employing a multi-faceted approach, researchers can illuminate the lived experiences of language communities, assess the impact of language policies on social equity, and ultimately contribute to more informed and effective policy making in the realm of multilingualism management.

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