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# From Info-Exclusion Risk to Civic Participation: The Perception of Digital Citizenship among Poor People

*Do Risco da Info-Exclusão à Participação Cívica: A Percepção da Cidadania Digital entre Pessoas Pobres*

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**Abstract:** In Brazil, even after 21 years of implementing digital inclusion policies, there are still few valid dimensions and indicators to develop statistical models to assess the effectiveness of these policies in terms of the exercise of citizenship, as a way of contributing to the reduction of infoexclusion in a global context of rising poverty levels in recent decades. The present study explores the meaning and the importance of citizenship for the poor through a questionnaire answered by 515 users from 84 telecenters in Belo Horizonte, Brazil. Using Principal Component Analysis (PCA), three dimensions with 31 indicators were obtained for citizenship and three dimensions with 33 indicators for digital citizenship. Assessed in the context of today's society, these dimensions proved to be complementary and inseparable for the effective exercise of citizenship. Thus, the results of this study contribute to the improvement of public policies for digital inclusion and prevention of poverty.

**Keywords:** Citizenship; digital citizenship; dimensions; indicators; principal component analysis.

**Resumo:** No Brasil, mesmo após 21 anos de implementação das políticas de inclusão digital, ainda há escassez de dimensões e indicadores válidos para construir modelos estatísticos que avaliem a eficácia destas políticas no que tange o exercício da cidadania, como forma de contribuir para a redução da infoexclusão num contexto global de aumento

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dos níveis de pobreza nas últimas décadas. O presente estudo explora o significado e a importância da cidadania para os pobres por meio de questionário respondido por 515 utilizadores de 84 telecentros em Belo Horizonte, Brasil. Utilizando-se Análise de Componentes Principais (ACP), obtiveram-se três dimensões para cidadania com 31 indicadores e três dimensões para cidadania digital com 33 indicadores. Avaliadas no contexto da sociedade atual, tais dimensões se mostraram complementares e indissociáveis para o efetivo exercício da cidadania. Assim, os resultados deste estudo contribuem para o aperfeiçoamento de políticas públicas de inclusão digital e combate à pobreza.

**Palavras-chave:** Cidadania; cidadania digital; dimensões; indicadores; análise de componentes principais.

### **1. Introduction**

In the 20th century, during the so-called era of modernity, the idea that being a citizen is to be obedient and passive in the face of a rule of law dependent on the initiative of the State was embedded in us (eg., Massensini, 2011; Snyder, 2016). This concept, which relegates private and collective initiative to the background, subservient to state power, has ceased to prevail in the present era of post-modernity, in which new technologies prevail, and information and ease of communication gain a previously unknown importance. In this context, every citizen who has access and the ability to use emerging technologies can trigger collective and social actions with a simple click. The idea began to gain strength by dominating the media and social networks, acquiring more autonomy and stimulating social movements. Which brings us closer to the – utopian - idea that we can all really be 'equal'.

The network society is a reflection, consequence, or representation of social reality, meaning that being a citizen is no longer participating in obedience to the State, but according to the individual capacity to act in the elaboration of social rules, according to the experience and knowledge acquired. Therefore, this network society or information society enables the autonomous and active participation of any citizen who has access to it, the capacity and knowledge to access it and the opportunity for expression. Therefore, through Information and Communication Technologies (ICT), all individuals potentially have the same civil, social, and political rights, regardless of sex, race, social status, level of education, and political or religious choice, a situation that configures the concept of active citizenship, digital citizenship, or hyper-citizenship (e.g., Fernández-Prados, Lozano-Díaz, Ainz-Galende, (2021), Bustamante, 2010; Castells, 2003).

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Digital citizenship is a systemic conception of the network society, based on information, knowledge and citizen participation, in which inequalities, even between countries, reflect differences in the level of knowledge, opportunity, accessibility and use of ICT. This is associated with individual and social understanding (or awareness) of the functions and roles that each can play in the network society (e.g., Poker, 2009; Silva, 2013; Mendes, 2001).

The utopian dream of an egalitarian society, promised by the network society (e.g., Castell, 2003, Castell & Cardoso, 2005, Silveira, 2010), seems increasingly distant. Paradoxically, this is understood by the difficulty that remains in reducing poverty, promoting better living conditions, increasing job opportunities and social ascension. Those who are poor and do not have the possibility or ability to use ICTs, due to the relevance they have, are relegated to a second level, as if they were a stranger to the network society, losing the chance to participate in it, which, indirectly, has consequences in their social and professional sphere.

If sociologically every citizen must live in society and feel like a member of it by contributing to social norms and rules, how can a society, like the Brazilian one, with so many socioeconomic discrepancies and regional differences, guarantee equality of conditions in the context of the nation itself, so that all have equal rights to exercise citizenship? How can the Brazilian state ensure that there is no stratification of citizens by social class, without a clear definition of what citizenship and digital citizenship means, particularly for poor people?

In this sense, in order to understand the real need of these populations, a starting point was the consultation of previous works on the impact of ICT (e.g., Garrido, Hart, & Santana, 2012; Ribble, 2011; CGI.br, 2013; Haddad, Oliveira, & Cardoso, 2016). These are not sufficient to answer the complex questions that arose, such as, for example, fighting against digital exclusion, access to ICT for poor young people (who do not have opportunities), or help each one to feel like a member of society. Therefore, it was necessary to identify factors and indicators that reflect the reality of these poor communities so that the dimensions/factors/indicators of citizenship and digital citizenship could fundament the construction of instruments and statistical conceptual models. Knowing this reality, will enable the elaboration of public policies that contribute to the reduction of poverty and info-exclusion. So far, the scales found in the research available on the exercise of (digital) citizenship reflect, for the most part, research applied

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within universities among students or professors, or among publics with a high educational background that cover a high level of national or global contribution. For example, if some of these are used, e.g., contributing to the reduction of the greenhouse effect, participating in international councils and institutions for the improvement of life on the planet, among others), these scales will certainly not be part of those that will make up a scale of assessment of citizenship and digital citizenship for socially disadvantaged populations because, poor people are in need, in the first place, of housing, food, employment and access to basic sanitation and the internet.

To minimize the negative impacts of the information society, such as infoexclusion, international organizations (ONUbr, 2016) and governments have established digital inclusion guidelines and strategies, based on a new culture of law, not only the generic right to the Internet, but access to information as a public good (Sposati, 2015). Currently, places of public and free access to ICT (such as Telecenters, cybercafs or libraries), maintained by digital inclusion programs, open up new opportunities, of a social, economic and financial nature, in particular for poor or low-income populations (Sey et al., 2015).

“Public access venues typically aim to provide access for specific populations, including people of lower socioeconomic status, females, youth, older users, and rural residents — those too poor to afford private access, lacking technology literacy and skills, or excluded for some other reason” (Sey et al., 2015, p. 49).

Digital inclusion programs have the technological potential to promote social responses and provisions, in a territorial, integrated, and democratic way and, in this way, face social and digital exclusion in a social reconstruction process. exercise of citizenship, enabling greater employability, development of communities and ability to solve their problems, with participation and critical autonomy for political practices, and promotion of social inclusion In this context, the current research focusses on Telecenters, which allow access to ICT free of charge, favoring the participation of citizens and the surrounding community in the resolution of everyday, individual, and collective demands” (Jambeiro & Silva, 2015; Sey et al., 2015; Haddad, Oliveira & Cardoso, 2016).

Starting from the need to implement public policies for digital inclusion, whose final objective is the exercise of citizenship, spaces called Telecentros<sup>4</sup> (Telecenters) were used as research objects, installed in areas of social vulnerability (favelas or communities) in the city of Belo Horizonte, Brazil. This choice specifically sought to reach the poor social

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<sup>4</sup> Telecenters are public access spaces located in poor communities, equipped with computers connected to broadband internet, for community use, free of charge.

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classes (families with family income of up to three minimum wages in Brazil – classes C, D and E) who are the public of these policies.

A questionnaire was applied to those who frequent these spaces at the location, seeking to answer several questions related to the information society, Telecenters and citizenship. In this article, only two of them will be addressed related to:

- a) Definition of the indicators that make up the understanding of citizenship;
- b) Definition of the indicators that make up the understanding of digital citizenship.

This article is part of a broader research (Haddad, 2019) whose central question is to verify how social programs for digital inclusion contribute to the exercise of digital citizenship, among citizens from poor social classes, in Belo Horizonte, Brazil.

### **2. Methodology**

The present study is quantitative. We chose to use an online questionnaire and a 5-point Likert-type ordinal scale. For the composition of the items (indicators) of this questionnaire, we used the scales or indicators already published in the literature (Sey et al., 2015; Lisa & Kimberly, 2016; Choi, 2015), which were adapted to the reality of Telecenter users, either due to the dimension and range of action of the scales or due to the limited grammatical understanding of the users. In addition to this study, it should be noted that authors such as Rible (2011), Castells (2003), Garrido, Hart & Santana, Massensini (2011), Marshall (1967), among others, contributed theoretically to the construction of the applied questionnaire. However, their theoretical contributions do not reflect the reality of the participants in our study, justifying the need for specific indicators designed specifically for the case in question. In this way, we have, for example, the indicators: Combating digital exclusion, Access to ICT by poor young people (who do not have opportunities); Combat online various forms of exclusion (cultural, economic, territorial or ethnic), among others (Haddad & Oliveira, 2017).

As referenced in the introduction, in the context of Haddad (2019), the questionnaire was prepared with 14 questions and 357 items, 332 with Likert scale (1 to 5) and 25 open or multiple-choice questions; the obtained data was analysed using the Qualtrics software (Haddad, 2019). For this article, only the results of two are presented (cf. Table 01).

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<b>Question</b>	<b>Number of questions – with Likert</b>	<b>Number of questions – without Likert</b>
For you, citizenship is:	31	1
For you, Digital Citizenship (on a virtual level) is:	33	1
Total	64	2

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**Table 01:** Haddad's Inferential Study Questionnaire Questions (2019)

For you, citizenship is:					
Items	Totally disagree	Disagree	Not agree nor disagree	Agree	Totally agree
Help solve community problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensuring rights in society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Achieve a goal in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Become aware of the reality in which you live	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To make yourself heard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guarantee the right to life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having equal rights (based on ideas, values and beliefs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Equal obligations for all (based on ideas, values and beliefs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Express yourself politically freely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in political/social movements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in local development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be able to participate in social, environmental, political issues, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be able to speak out and fight for your rights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern about the collective or community (out of solidarity)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respect freedom of opinion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respect the rights and duties of all people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respect everyone's space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Know your role in a group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Know how to listen and speak	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To be free (in society)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To be respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having the right to work and income	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To have leisure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To have freedom of thought and communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To have a house to live in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To have (something) to eat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having a professional occupation recognized by law	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To take responsibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Having a recognized position in society	<input type="radio"/>				
Living collectively in harmony	<input type="radio"/>				
Other:	<input type="radio"/>				

For you, Digital Citizenship (on a virtual level) is:					
Items	Totally disagree	Disagree	Not agree nor disagree	Agree	Totally agree
Helping everyone to feel like a member of society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To fight online against any exclusion (cultural, economic, territorial or ethnic)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invite others to participate in society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop online government services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teach people to search for information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exclude from society people who do not master the use of ICT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guarantee of the right to access the internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fighting the digital divide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to ICT for poor young people (who don't have opportunities)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The right to life in society with civil and political participation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The right to inform yourself online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How Users Behave on the Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online process of gaining (equal) rights	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online process of liberation from a bad social and economic condition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The use of services that bring public affairs closer to citizens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be able to participate in any online processes (resources, systems, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being able to vote online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online process for solving problems (community, country or world)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promoting access to digital worlds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resolve multiple issues online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowing how to use ICT for social good purposes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel like I can help solve any problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel connected to anyone, anywhere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Have access to any process (resource, standard or system) online	○	○	○	○	○
Mastery in the use of ICT	○	○	○	○	○
Have a critical view when participating in online processes	○	○	○	○	○
An active way of acting that strengthens the exercise of citizenship	○	○	○	○	○
An online way to manifest and mobilize in the information society	○	○	○	○	○
Using the internet for political participation	○	○	○	○	○
Using the internet for social and economic participation in society	○	○	○	○	○
Use ICT responsibly	○	○	○	○	○
Using ICT to make people aware of how to live in society	○	○	○	○	○
Other:	○	○	○	○	○

**Source:** prepared by the authors themselves.

We chose to analyze the obtained data with the Principal Component Analysis (PCA) statistical technique, which allowed us to reduce a set of indicators (variables) that are correlated with each other into another set with a smaller number of variables that are not correlated with each other and designated by principal components. Furthermore, quality criteria such as eigenvalue, explained variance (above 50%) and Cronbach's alpha (e.g., Laureano & Botelho, 2017) were used. Based on this initial solution and based on the literature (e.g., Pestana & Gageiro, 2014), indicators that had low commonality (weight or factorial load less than 0.500) or were mixed (weight or factorial load above 0.500 in more than 0.500) were analyzed. of an indicator) and these were removed from the set of indicators for each PCA.

With the choice of the PCA technique, it was necessary to verify the quality of the correlations between the variables with the statistical procedures Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's test.

The participants consisted of poor people who frequent the Telecenters installed in socially vulnerable areas of Belo Horizonte, Brazil. The initial sample was greater than 700 subjects, which was defined as a stratified nonparametric random sample, as it did not present a normal distribution. Thus, people who attended the telecenters spontaneously answered the online questionnaires installed on the computers made available to users. Removing the incomplete questionnaires, a final sample of 515 users of 84 active Telecenters in Belo Horizonte was obtained, from social class C, D and E,

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aged between eight and 70 years, different levels of education, marital status, levels of knowledge in ICT and profession, including retirees and unemployed. Data processing was performed using the SPSS software.

### 3. Findings and Discussion

The final PCA of the entities citizenship and digital citizenship revealed a total of 6 factors/dimensions and 47 indicators with high quality of explained variance (above 50%). Cronbach's Alpha revealed a high degree of reliability between the variables and the items that encompass them, with strong correlation indices between them (KMO). Of the 64 initial indicators for the two entities, 17 were excluded from the final PCAs because they had low commonality (weight or factorial load less than 0.500) or were mixed (weight or factorial load above 0.500 in more than one indicator). Table 02 describes the factors and their quality criteria.

Table 02: Final PCA results

Entities	KMO	Total Variance	Dimensions	Cronbach's Alpha ( $\alpha$ )	Indicators	Excluded indicators
1	0,959	64,8%	Social rights	0,929	7	8
			Civil rights	0,906	5	
			Political rights	0,930	11	
2	0,962	59,5%	Social integration	0,946	16	9
			Digital access	0,792	4	
			Digital literacy	0,801	4	

Source: prepared by the authors themselves.

Each of the factors related to the entities (citizenship and digital citizenship) was conceptualized based on the literature mobilized by the research. These factors are represented by a set of indicators considered significant by the study population. Therefore, it is not the purpose of this article to discuss whether such factors/indicators are innovative or already existing in the literature, nor to describe the relationship between the factors and their indicators with the theories of the authors that justify it. Its contribution is to demonstrate what these indicators represent and the degree of importance to these populations. The results are presented below.

#### 3.1 PCA Citizenship

Three factors were extracted from this PCA:

The first factor obtained groups items that refer, on the one hand, to issues associated with Social Rights – namely: To have (something) to eat; To have a house to

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live in; To take responsibility; Having a professional occupation recognized by law; To have leisure; To be respected; and having the right to work and income.

The second associate items with Civil Rights, respectively: To have freedom of thought and communication; Respect everyone’s space; Living collectively in harmony; To be free (in society); Know how to listen and speak (e.g., Marshall, 1967), and the Civil Law component (e.g., Massensini, 2011; Caraça, 2007).

The third factor encompasses indicators that essentially refer to the possibility of political participation, intervention or manifestation, or to issues associated with the political sphere, that is, Political Rights (items: Be able to participate in social, environmental, political issues, etc.; Express yourself politically freely; Participate in political/social movements; Be able to speak out and fight for your rights; To make yourself heard; Concern about the collective or community (out of solidarity); Become aware of reality in which he lives; Having equal rights (based on ideas, values, and beliefs); and Equal obligations for all (based on ideas, values, and beliefs) (e.g., Marshal, 1967).

The indicators for each dimension are shown in Table 03.

**Table 03:** Factorial (optimized) solution of Citizenship dimensions

Citizenship Indicators	Dimensions		
	Social rights	Civil rights	Political rights
To have (something) to eat	0,827		
To have a house to live in	0,825		
To take responsibility	0,788		
Having a professional occupation recognized by law	0,760		
To have leisure	0,758		
To be respected	0,754		
Having the right to work and income	0,750		
To have freedom of thought and communication		0,738	
Respect everyone's space		0,716	
Living collectively in harmony		0,694	
To be free (in society)		0,672	
Know how to listen and speak		0,664	
Participate in local development			0,822
Be able to participate in social, environmental, political issues, etc.			0,805
Express yourself politically freely			0,793
Participate in political/social movements			0,788
Be able to speak out and fight for your rights			0,737
To make yourself heard			0,716
Concern about the collective or community (out of solidarity)			0,697
Become aware of the reality in which you live			0,687
Having equal rights (based on ideas, values and beliefs)			0,583

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Citizenship Indicators	Dimensions		
	Social rights	Civil rights	Political rights
Equal obligations for all (based on ideas, values and beliefs)			0,563
Eigenvalue	7,900		7,000
Explained variance (%)	34,300		30,500
Cumulative variance (%)	34,300		64,800
Cronbach's Alpha ( $\alpha$ )	0,929	0,906	0,930
PCA Citizenship: Factorial solution, after varimax rotation, with Kaiser normalization, convergent in three iterations; KMO=0.959; Bartlett's sphericity test = 9868.789; significance = 0.00			

Source: prepared by the authors themselves.

*3.2 PCA Digital Citizenship*

Three factors were extracted from this PCA: social integration, digital access and digital literacy. These three factors represent the concept defined by Massensini (2011), Silveira (2010), and Snyder (2016), in addition to reflecting part of the nine elements as essential for the exercise of the digital city, as defined by Ribble (2011).

The first factor obtained groups together items that refer to the possibility of, using digital means, being better able to resolve various issues, act in society, mastery on the use of ICT, participate in problem solving, etc., that is, digital citizenship is somehow synonymous with social integration through the ability to act in digital media, i.e., in a more synthetic way, a form of social integration. Such items relate to the four elements defined by Ribble: digital etiquette, digital law, digital rights and responsibilities, and digital security (e.g., Massensini, 2011; Silveira, 2010; Snyder, 2016; Ribble, 2011).

The second encompasses indicators that, essentially, refer to the right of access to the digital medium. More than the right of access to information, ICT, the Internet, the right to inform yourself online, there is a need to fight against digital exclusion as indicated by the item with the most relevant factorial load (or loading). Therefore, what is highlighted here is the right to digital inclusion (or integration). Such a right was approved by the UN as an obligation of the States, and was, as evidenced, claimed by the users of the Telecenters. (e.g., ONUbr, 2016; Figueiredo, 2007).

The third, Digital Literacy, encompasses indicators associated with one of the elements defined by Ribble's, Digital Literacy, and with the process of combating info-exclusion exercised by the State, society, and people (e.g., Neves, 2007, Snyder ,2016).

The indicators of each dimension are presented in Table 04.

**Table 04:** Factorial solution (optimized) of the dimensions of Digital Citizenship

Digital Citizenship	Dimensions
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Indicators	Social integration	Digital access	Digital literacy
Resolve multiple issues online	0,721		
Using the internet for social and economic participation in society	0,700		
An online way to manifest and mobilize in the information society	0,688		
Mastery in the use of ICT	0,685		
Feel like I can help solve any problem	0,673		
Knowing how to use ICT for social good purposes	0,670		
Using ICT to make people aware of how to live in society	0,667		
An active way of acting that strengthens the exercise of citizenship	0,664		
Using the internet for political participation	0,658		
Use ICT responsibly	0,656		
Feel connected to anyone, anywhere	0,645		
Have access to any process (resource, standard or system) online	0,641		
Promoting access to digital worlds	0,605		
Online process for solving problems (community, country or world)	0,581		
Be able to participate in any online processes (resources, systems, etc.)	0,544		
The online process of gaining (equal) rights	0,519		
Fighting the digital divide		0,766	
Access to ICT for poor young people (who don't have opportunities)		0,708	
Guarantee of the right to access the internet		0,648	
The right to inform yourself online		0,576	
Helping everyone to feel like a member of society			0,788
Invite others to participate in society			0,723
To fight online against any exclusion (cultural, economic, territorial or ethnic)			0,683
Develop online government services			0,642
Eigenvalue	7,497	3,850	3,535
Explained variance (%)	29,987	15,402	14,140
Cumulative variance (%)	29,987	45,389	59,529
Cronbach's Alpha ( $\alpha$ )	0,946	0,792	0,801
PCA Digital Citizenship: Factorial solution, after varimax rotation, with Kaiser normalization, convergent in six iterations; KMO=0.962; Bartlett's sphericity test=8007,513; significance=0.00			

**Source:** prepared by the authors themselves.

Thus, defining citizenship means incorporating the various transformations produced throughout human history, from ancient Greece, when it was limited to free individuals who enjoyed privileges, passing through to those who obeyed the norms established by the State until reaching citizenship in the 19th century. XXI, in which the citizen became the subject of rights, without distinction of gender, race, political or religious conviction and who expresses himself freely and with the right to control his body and his life (e.g., Diniz, 2014; Covre, 2001). Diniz (2014, p.10) adds that the construction of the concept of citizenship took place through the mobilization of: [...] people and organizations, in the search for the construction of an egalitarian and participative society. Today, more than ever, popular participation presents itself as one

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of the most visible demonstrations of the exercise of citizenship, being, at the same time, a guarantee for this exercise, enabling and ensuring other rights (Haddad, Oliveira & Alturas, 2022).

Therefore, being a citizen implies having the right to life, with freedom and equality before the law. It also implies participating in the destiny of society, knowing how to decide, giving constructive opinions, respecting the rights of others, having the right to education, work, fair wages, health, a peaceful old age (e.g., Diniz, 2014; Pinsky & Pinsky, 2005). From the perspective of participation in the destiny of society, citizenship can be passive, exercising rights already guaranteed in society, such as guaranteeing the right to life, or actively, promoting the right to life in society, with civil and political participation (e.g., Massensini, 2011; Silveira, 2010).

In the process of social development based on ICT, it is important to understand that, in the construction of the open State, the exercise of citizenship is necessarily consolidated by the use and access to information in a democratic way and by the fight against exclusion. These are matters in which the Law cannot fail to be involved, “since both the conquest of political, social and civil rights and the implementation of the citizen’s duties fundamentally depend on free access to information about such rights and duties” (Castells, 2003, p. 09).

Citizenship is the very right to life in the full sense. It is a right that needs to be built collectively, not only in terms of meeting basic needs, but encompassing access to all levels of existence, including the most comprehensive one, which is the role of man(s) in the Universe (e.g., Fernández-Prados, Lozano-Díaz, Ainz-Galende, (2021); Covre, 2001, p. 11).

### **4. Final Considerations**

After all, what means and what is the importance of citizenship and digital citizenship for poor populations in Belo Horizonte, Brazil?

According to our findings, for people from lower social classes and who use digital inclusion spaces (Telecenters), citizenship is represented, in the first place, by indicators associated with social rights, such as having something to eat, housing (home), responsibility, formal professional occupation, leisure, and the right to work and income, which can be justified by the low socioeconomic status and unmet basic and survival needs to which this population is submitted. For this group of people, having leisure is

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also among the basic survival needs, as well as having a paid occupation recognized by the state and society so that they have dignity to live and can know their role in the group and in society. Once these basic needs have been overcome, then, and not least, are the needs to be free and respected, which are represented by indicators associated with civil rights, such as: freedom of thought and communication, respect for everyone's space, living collectively in harmony, be free (in society) and know how to listen and speak. Therefore, belonging to a social class with lower purchasing power does not mean that you don't want to participate in the construction of the society in which we live. On the contrary, this population wants to be heard, respected and considered. Reinforcing and giving coherence to the indicators associated with social and civil rights are the indicators correlated with political rights, such as: being able to participate in social, environmental, political issues, etc., manifesting oneself politically freely, participating in political/social movements, being able to speak out and fight for their rights, making themselves heard, among others. Thus, the exercise of citizenship for these social classes permeates the three basic rights: social, civil and political, demonstrating, once again, that it is essential to eradicate poverty so that other needs emerge, contributing to the full exercise of citizenship.

Digital citizenship, on the other hand, is, above all, synonymous of having the right and access to online information by citizens, so that they can effectively participate in all social spheres of the society in which they live. Exercising digital citizenship is fighting against digital exclusion and for access to ICT for poor young people who don't have opportunities, demonstrating a clear concern for the other by helping them to feel like members with participation in society. Thus, digital citizenship has a strong connection with political right, as an online way of expressing and mobilizing people in this information society.

Considering that it is not the objective of this article to correlate citizenship and digital citizenship statistically, it was up to us to interpret qualitatively that in order to exercise the explicit rights of citizenship (civil, political, and social) in the network society, it is necessary to exercise citizenship digital. Take, for example, the demand for the right to have a house as a social right related to citizenship. Currently, government programs aimed at producing social housing require future beneficiaries to register on online platforms and follow the registration approval process remotely. Another example is the right to a salary (to have income) as a component of citizenship. As is known, the

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search for jobs in online platforms are now common worldwide, while the offer of jobs in physical newspapers is practically non-existent. Another example, now relating the political right, would be “fighting for your rights, making yourself heard”. It is known that the organization of demonstrations and the signing of petitions are done mostly in online platforms. Many other examples could be given to justify that, to exercise citizenship and the rights associated with it, it is essential to exercise digital citizenship. That is, having access to the internet and not being excluded from the news, is a basic precept for the full exercise of citizenship.

The indicators emerged from this study are basic needs and are part of the exercise of citizenship and digital citizenship of the surveyed communities. Although they refer to the sphere of action of each individual and the needs of the communities and cultures in which they are inserted, they are perceived by the participants as concrete manifestations of the dimensions of citizenship and digital citizenship identified in this study.

In short, perceptions about digital citizenship reveal that, in today's increasingly digital society, access to social, civil and political rights established as dimensions of citizenship are inseparable from access to the internet. That is, promoting the full exercise of citizenship, meeting social needs, civil and political participation, presupposes combating info-exclusion in the society in which we live, reaffirming the concept of Wright (2008, p. 6) that defines the exercise of digital citizenship as “the ability to participate in online society”, as being the clearest definition of living in the modern, networked world.

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