Article

Methodological Challenges: From the First to the Second Wave of the World Love Index

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Abstract: This article is methodological in nature, addressing and discussing the challenges the research team encountered in constructing a new international well-being index called the World Love Index. This index represents the first quantitative operationalization of the concept of Social Love, which seeks to capture actions or social relationships characterized by excess and care for the benefit of individuals outside the primary circle, loved for their irreducibility. Starting with a discussion of the project's objective rooted in the Beyond GDP debate, the article first analyzes the theoretical definition of Social Love and its semantic dimensions for operationalization. It then focuses on the methodological construction of the index through secondary data analysis, particularly examining the transition from the first wave to the second wave. Through the first wave of the WLI, this concept was systematically investigated on a transnational level. However, the first wave faced criticism for its weaknesses due to decisions made during the index's construction. This paper, from a purely methodological perspective, demonstrates how the second wave of the WLI aims to address these challenges and turn them into strengths.

Keywords: World Love Index; social love; methodology; secondary data analysis; transnational data

1. Introduction

The World Love Index (WLI) is a methodological project for the secondary analysis of open-source data. It forms part of the ongoing debate concerning the identification of measures of social well-being going beyond the traditional use of GDP as the sole indicator of wealth. This approach aligns with the growing interest in alternatives to GDP in assessing social well-being, highlighting the urgency of integrating a broader range of indicators into governance processes. In particular, the WLI aims to stand out for its specific attention to the dimension of social relationships and human connections, an aspect often overlooked by traditional well-being indicators. This is particularly relevant in a period like the current one, marked by the post-pandemic and the growing awareness of the importance of human relationships for individual and collective well-being.

The project is based on open data sources and uses innovative methodologies to quantify and measure social love globally. The WLI project was conceived in order to capitalise on the opportunities presented by the current era of open source and international open data. The project would not have been possible in the absence of the digital revolution and the opportunities offered by open data. Today, there are many open data sources that allow comparisons of cross-national dynamics. However, to correctly interpret this vast amount of data, it is necessary to adopt new holistic and relational perspectives.

Precisely to respond to this need, this project makes use of online resources to quantify and operationalize the concept of "social love", thus offering a new way of looking at the capital that people and nations have based on the public dimension of love serving as the foundation of solidarity among individuals, groups, and entire populations. Social love

encompasses critical actions, interactions, and social relationships devoid of calculation and expectations of reciprocation. Going beyond primary, familiar, and intimate bonds, it extends to those who are different from us, such as strangers and foreigners, with particular emphasis on the most vulnerable, future generations, and even nature itself. In this sense, social love manifests as care for others and the world.

The contribution begins with the definition of social love and tracing the theoretical roots of the concept within the sociological literature. Next, we will present the methodology used to construct the WLI index internationally. We will initially illustrate the procedures and choices that the research group made in the first wave. This initial phase had as its main strength the attempt to operationalize the concept of social love using internationally available data sources. It was also the first attempt to apply quantitative methods to a concept that, until then, had mainly been investigated with qualitative methods. However, the first wave also presented some limitations, which will be discussed in depth in a dedicated paragraph. Next, we discuss the methodological aspects of constructing the index's second edition. The aim is to address the critical points of the first edition. Although certain limitations remain, this project has the ambition to propose a new global index that expresses the capacity of people and nations to love others and the world.

2. What Social Love Is

Social love is a concept that has been explored in the literature. Its original meaning can be traced back to the aspect of love known as agape in classical philosophy (Iorio 2015). This interpretation of love detaches from the logic of gift and exchange. It encourages individuals to expand their love beyond their primary relationships and embrace others different from themselves (Cataldi 2023, p. 20). Even in classical sociological literature, numerous authors investigated the concept of social love. In several essays Weber (1915–1919, 1916, 1922) explores the origin of love, identifying a community basis and tracing it back to a cultural process. Symonds and Pudsey (2006) define it as part of the process of cultural rationalization. Starting with Simmel (1921), who recognizes love as a purely sociological issue and the foundation of society, and up to Sorokin (1950, 1954), who focuses his studies on altruistic love, many authors have dealt with love from a sociological point of view.

In addition to the sociological classics, other authors such as Sombart (1913) and Elias (1939) have highlighted how love, as a social fact, has increasingly been relegated to the private sphere of individuals.

Several authors have explored the subject of love, including Giddens and Bauman. Giddens (1992) discusses the impact of love on social life, such as the separation of family and work life and the use of birth control. It is important to note that these evaluations are subjective and should be marked. Bauman (2003) observes how emotional connections reflect modern society and have become more transient and adaptable. Exponents of critical theory, such as Boltanski and Honneth, contribute to reflecting on the social dimension of love. Boltanski (1990) is considered the founder of the sociology of love. He borrows the concept of agape from Christian theology and employs it as a specific category of social action in the sociological domain. Cataldi (2023, p. 27) suggests that, together with other regimes of action, this allows individuals to build an ambivalent social order where practices continually renew meanings. It is possible to argue that Boltanski is a contemporary founder of the sociology of love. Honneth (1992, 2003, 2011) considers love as the foundation of intersubjective recognition, which is the core of all ethics and the basis of law and solidarity.

Love has been studied in various interdisciplinary traditions, including feminist literature and the sociology of emotions. Love studies have been established in feminist literature to reflect on love as a social and academic object (Jóhannesdóttir and Ferguson 2014). Scribano (2019), a recent exponent in the sociology of emotions, investigates love as a collective action with political and communitarian values. There has been a renewed interest in studying social love in recent years. An example is establishing a thematic group

dedicated to the topic within the International Sociological Association (ISA) in September 2023, known as TG12 Social Love and Solidarity[1].

The concept of social love has been extensively investigated, primarily through a qualitative approach. This approach has identified certain constituent aspects of the phenomenon and led to a shared definition. Although stipulative (Marradi 1986), the definition distinguishes social love from other related and connected concepts. In our study, therefore, we adopt the definition that considers "social love as an action, relationship or social interaction in which subjects exceed (in giving, in receiving, in not giving or not doing, in neglecting) all their antecedents, and therefore offer more than the situation requires to make benefits" (Araújo et al. 2015, 2016; Iorio 2015, p. 23; Cataldi and Iorio 2023, p. 12). From this definition, four constitutive dimensions of social love have been identified (Palmieri et al. 2021):

- Overabundance: social love is characterized by an overabundance that exceeds any previous action.
- Care: the overabundance of love can be negative if it is not aimed at benefiting the other or the world/environment.
- Recognition: recognizing the other as irreducible and unique and seeing the other's diversity as valuable for oneself and society.
- Universalism: social love goes beyond belonging to groups and primary relationships (partners, family members, friends, etc.). It is directed towards unknown people, from another country or culture, or even an ungrateful or enemy person.

As can be seen from the definition of the concept and its dimensions, social love is related to other concepts such as empathy, solidarity, altruism, and gift. However, there are areas of differentiation between these concepts that demarcate their theoretical and conceptual boundaries. It can be emphasised that empathy pertains to a purely cognitive and emotional dimension of action. Moreover, empathy can generate results of an instrumental nature concerning scope. In contrast, social love has a profound practical and everyday dimension that, by definition, is not instrumental (Iorio 2013, p. 25; Gallelli 2015, p. 233). Concerning solidarity, the action dimension is traceable to respect for the person and his or her rights. In loving action, there is a sense of community traceable to respect for the person and his or her needs, even if he or she is not entitled to them. This is exemplified by the action of directing it at an enemy (ibid, p. 272). In contrast to the gift, social love is defined by disinterested giving, which does not necessitate reciprocity. It is, therefore, a culture of giving without seeking restitution (ibid, p. 227). Finally, altruism, in contrast to social love, can mask selfish intentions. This can be exemplified by the distinction between altruistic action undertaken to achieve fulfilment and being fulfilled as an unseeking consequence of altruistic action (ibid, p. 220)

3. Methods of the World Love Index's First Wave

The WLI is a composite index from a secondary data analysis research design. This index aims to create an empirical path to understanding the extent to which the social love phenomenon is widespread worldwide. Many data sources are explored at the beginning of the research activities to create a global and transnational index. After careful inspection of the available datasets—exploring the indicators and the methodology of the data collection—two data sources are selected: the World Values Survey (WVS) and the Gallup World Poll (GWP). They are cross-sectional and longitudinal research infrastructures that involve the administration of a structured questionnaire to hundreds of thousands of interviewees in most countries around the world. WVS is an international project that results from scientific collaboration between universities and research institutes. On average, one wave is conducted every five years when a nationally representative sample of 1200 people living in each of around 60 countries is interviewed. Once data are collected through telephone and face-to-face interviews, the dataset is produced and made available free of charge to anyone who requests it. The recipients of WVS data are usually scientific researchers.

On the contrary, GWP is an international commercial project product of the oldest and most prestigious American polling agency. On average, one wave is conducted yearly when a nationally representative sample of 1000 people living in each of around 100 countries is interviewed. Once data are collected through telephone interviews, the dataset is produced and made available in exchange for payment. The recipients of GWP data are usually market researchers.

WVS and GWP complement the WLI research project because they investigate numerous domains of people's daily lives from different points of view. WVS inquiries about people's attitudes, values, and beliefs in contemporary societies, highlighting how they change through longitudinal and cross-sectional analysis. GWP inquiries are about the feelings and behaviors of people, focusing on how they change over time and the different forms they take on the earth. Thanks to the variety of individual data collected by the WVS and GWP, they are suitable sources for selecting valid indicators of social love dimensions: overabundance, care, recognition, and universalism.

The selection of the indicators has required the involvement of experts on the concept of social love. They were asked to contribute to a content validation procedure (Marradi and Simonella 2023), validating a broad initial basket of potential indicators of social love dimensions drafted by the core members of the research group. For each preselected indicator, seven experts validated the semantic extension of the indicating part in common with (or extraneous to) one conceptual dimension of the general concept of social love. The content validation procedure followed four steps:

1. The research group's members selected 25 potential indicators of social love.
2. Each of the involved experts decided whether a large part of the semantic extension of the indicator can indicate the concept of social love or whether a large part of the semantic extension of the indicator is in common with other concepts and, therefore, extraneous to social love.
3. If, in the expert's opinion, the indicating part prevails, the expert matched the indicator with one specific dimension of social love.
4. The research group's members identified the indicators considered by the experts as having a substantial part of its semantic extension in common with the concept of social love, and the other indicators were eliminated.

Thanks to their theoretical-oriented judgments, the seven experts' evaluation guided the research group's core members to select sixteen indicators, four for each of the social love concept's four dimensions. Table 1 shows the final list of the indicators chosen for constructing the WLI.

The 16 indicators compose the aggregated data matrix of WLI, which results from the integration of GWP and WVS datasets. From one side, the GWP dataset (three indicators of WLI) are answers given by the respondents to the questionnaire administered annually from 2010 to 2014; the Charity Aid Foundation made 2010–2014 GWP data publicly available to create the World Giving Index 2015 (WGI 2015), and these national average values are integrated into the WLI matrix. On the other side, WVS 6 data (thirteen indicators of WLI) are answers given by the respondents to the questionnaire administered during the sixth wave of the WVS, from 2010 to 2014; in this case, the data aggregation has changed the level of the unit of analysis, from the individual unit of WVS 6 to the national unit of the aggregated data matrix of the WLI. Finally, the data matrix of WLI is made of 55 countries, which the WGI 2015 and the WVS 6 datasets have in common.

In the following step, the monodimensional indices are calculated. The index of overabundance is the national average of the response rates of people's propensity to volunteer their free time to organizations, donate money to charity, and be active or inactive members of humanitarian, charitable, and environmental organizations. The index of care is the national average of the response rates of the disposition of people to participate in a demonstration for environmental causes, donate money to ecological organizations, consider people living in poverty and need the most severe problem in the world, and consider environmental pollution the most severe problem for the world. The index of

recognition is the national average of the response rates on the belief that tolerance and respect, as well as unselfishness, are essential values to transmit to the youngest and that the progress towards a less impersonal and more humane society is the first and the second most important things in people's life. The index of universalism is the national average of the response rates of people's propensity to help unknown people or strangers in need, to trust most people, to trust people who practice another religion, and to welcome immigrants as good neighbours.

Table 1. The indicators of the WLI.

Social Love Dimensions	Indicators	Aggregation Criterion	Source
Overabundance	Have you done any of the following in the past month? How about volunteered your time to an organization? (Yes/No)	Yes	GWP
	Have you done any of the following in the past month? How about donated money to a charity? (Yes/No)	Yes	GWP
	Could you tell me whether you are active, inactive or not a member of a humanitarian or charitable organization? (Active/Inactive/Not a member)	Active + Inactive member	WVS
	Could you tell me whether you are active, inactive or not a member of an environmental organization? (Active/inactive/Not a member)	Active + Inactive member	WVS
Care	During the past two years, have you participated in a demonstration for some environmental cause? (Yes/No)	Yes	WVS
	During the past two years, have you given money to an ecological organization? (Yes/No)	Yes	WVS
	Indicate if you consider people living in poverty and need the most serious problem for the world as a whole (Mentioned/Not mentioned)	Mentioned	WVS
	Indicate if you consider environmental pollution the most serious problem for the world as a whole (Mentioned/Not mentioned)	Mentioned	WVS
Recognition	Do you consider tolerance and respect for other people to be especially important? (Mentioned/Not mentioned)	Mentioned	WVS
	Do you consider unselfishness to be especially important? (Mentioned/Not mentioned)	Mentioned	WVS
	Would progress towards a less impersonal and more humane society be the most important thing for you? (Mentioned as the first/Not mentioned)	Mentioned as the first	WVS
	Would progress towards a less impersonal and more humane society be the most important thing for you? (Mentioned as the second/Not mentioned)	Mentioned as the second	WVS
Universalism	Have you done any of the following in the past month? Have you helped a stranger or someone you did not know who needed help in the past month? (Yes/No)	Yes	GWP
	Would you say that most people can be trusted or that you need to be very careful in dealing with people? (Most people can be trusted/You need to be very careful)	Most people can be trusted	WVS
	Could you tell me whether you trust people of another religion? (Completely/Somewhat/Not trust/Not trust at all)	Completely + Somewhat	WVS
	Could you mention immigrants as a group of people that you would not like to have as neighbours? (Mentioned/Not mentioned)	Not mentioned	WVS

The WLI is theory-driven. The theory of social love has directed the empirical activity. Indeed, this is evident through the content validation procedure when the indicators were selected and even more so when the general index of WLI was created as the weighted average of the four monodimensional indices. The specific weight of each dimension depends on the dimension's relevance within the general concept. The core research group members re-heard the recorded meetings among the experts who were called to join the

panel to obtain the weights. Then, they coded the experts' opinions about the concept of social love, its dimensions and indicators, and the scores were given to the centrality that each dimension has within the concept, following this basic rule: the more the dimension is central within the concept of social love, the highest the score. Overabundance was identified as the central dimension of the concept (the weight is 2.6), care was the second most relevant dimension (the weight is 1.9), the third dimension was recognition (1.5), and finally universalism was the less central dimension (1). The scores attributed to the experts' opinions about the relevance of the social love dimensions are reported in Table 2.

Table 2. The experts' opinion scores were used to build the World Love Index as the weighted average of the four monodimensional indices.

Experts	Overabundance	Care	Recognition	Universalism
1	4	3	2	1
2	3	2	2	1
3	2	2	1	1
4	2	1	1	1
5	2	1	1	1
6	2	1	1	1
7	3	3	2	1
Avarage	2.6	1.9	1.5	1

The theoretical choices made by the experts during the content validation were subject to empirical confirmation. Employing a factorial approach, universalism and care were confirmed to be central dimensions of social love. The 16 indicators' content, validated by the experts, was investigated through Principal Component Analysis to observe the correlations among them and the presence of latent dimensions that can clarify the emerging empirical correlations. The detailed procedure adopted is published in Palmieri et al. (2024). The most interesting result is the identification of two main factors. The first is called "Dimension of action: overabundance", which recalls an overabundance action, which means the individual gives themself for others, without conditionality, without asking for anything in return; this factor emphasizes the dimension of overabundance as being the heart of the concept. The second is called "Types of overabundance orientation", which highlights the recipients of a social love behavior, identified in the people in poverty and the environment in the condition of pollution. In brief, this empirical activity confirmed what the experts put at the concept's centre. "The overabundance, alone, is not enough to connote a social love behavior; a loving gesture is social when it exceeds the collective expectations and, at the same time, it benefits the other in priority" (Palmieri et al. 2024, p. 51). That study confirmed that the dimensions of overabundance and care are the conceptual pillars of social love.

In addition, the experts agreed that finding another empirical path to investigate social love from the institutional and collective action perspective is necessary. Indeed, the empirical base of WLI is made of individual data related to personal behaviors, attitudes, and values about social love. This is the first step to quantitatively operationalizing social love; however, the collective side of sociality needs to be considered. This is why the core research group members identified two indices of the collective and institutional dimensions of social love: the Humanitarian Protection Index (HPI) and the Red List Index (RLI). Both are made of ecological data sources related to institutional behaviors oriented to protect the people and the natural environment in conditions of need. These two indices offer empirical data to observe the institutional disposition to social love actions whose recipients are migrants and the species at risk of extinction.

HPI calculates the proportion of refugees accepted by national countries. It is based on the total protection rate elaborated by the United Nations High Commissioner for Refugees

(UNHCR). The total protection rate is the ratio of asylum seekers who received refugee status or another complementary form of protection to the total number of decisions the national authorities made about the asylum requests of the asylum seekers. The total protection rate is multiplied by 100 and weighted for a number from 0 to 1, where 0 means a low number of substantive decisions and 1 means a high number of substantive decisions a country takes. This weight makes a difference between the nations with similar total protection rates but very dissimilar numbers of applications received.

The RLI is elaborated by the International Union for Conservation of Nature (IUCN) to monitor the conservation status of animal and plant threatened species over time. It aims to understand the extent to which biodiversity preserves itself or is put at risk in many world nations. The index sums the longitudinal changes in the number of animal and plant species that fall inside the Red List categories of extinction risk (most minor concern = 0; near threatened = 1; vulnerable = 2; endangered = 3; critically endangered = 4; and extinct and extinct in the wild = 5). Mathematically, this calculation is expressed as $RLI_t = 1 - [(S_s \, W_c(t,s)/(WEX \times N)]$, where $W_c(t,s)$ is the weight for category (c) at the time (t) for species (s); $WEX = 5$, the weight assigned to "extinct and extinct in the wild" species; and N is the total number of assessed species. HPI and RLI are not merged; they are compared to the WLI individually.

The results of WLI, HPI, and RLI are reported on www.worldloveindex.net.

4. Methodological Discussion: The Criticisms of the World Love Index's First Wave

The first wave of the WLI revealed some critical issues and limitations that require in-depth discussion. Initially, it appeared that the geographic coverage of countries needed to be improved, including only 55 nations that shared both WVS 6 and WGI 2015. This restriction raised several concerns, particularly regarding the significant absence of European representation. Indeed, only some European countries were included in the research sample. For example, Mediterranean and Central–Western European countries were not part of the survey, while only some states, such as Germany, Sweden, and Eastern European countries, were represented. This gap has highlighted the urgent need to broaden geographic coverage in future iterations of the index, leveraging data available from a more significant number of nations. Second, the limited extent of the data matrix presented considerable challenges in performing data analyses. The small size of the data matrix has presented technical challenges in multivariate analysis, as having few rows available limits the complexity of possible analyses. In particular, since the matrix of the first wave was small, as it was made up of a few territorial units (countries), this did not allow us to employ techniques to treat the variables in a multivariate approach but only apply techniques practical for aggregating cases (Palmieri et al. 2024).

Another criticism concerned the availability of the data, which was limited to the aggregate national level without detail at the regional or provincial level. This critical issue concerned Gallup data, which they made available in disaggregated form for a fee. This technical aspect meant that, although the survey data were individual, only ecological variables appeared in the matrix, reducing the possibility of multilevel and other detailed analyses. This limitation in data availability has limited the ability to deeply examine variations in social dynamics at a more detailed geographical scale, underlining the importance of acquiring funding to access more detailed data to enable in-depth analysis at the territorial level.

A further limitation of the first wave of the WLI was represented by the fact that the ecological index was constructed based exclusively on two indicators. These indicators of excess and care are derived from the Humanitarian Protection Index and the Red List Index. The underlying objective of this index was to reflect the social love of the institutions of various countries, differentiating itself from the survey-based index that measured the social love of citizens. Adequate state policies for refugees and biodiversity protection are essential, and in some way, they are oriented according to the concept of social love. However, the index needed to be more robust in its informativeness, given its basis on only

two indicators, and needed to be integrated with survey data. This suggests the need to enrich and integrate the index further to provide a broader representation of the concept in institutional terms.

Finally, the WLI faced a structural challenge common to all secondary data surveys. This index was constructed using indicators not explicitly designed to measure social love. In the first wave, the expert panel method was adopted to select the indicators with more semantic coverage compared to the concept's dimensions. This involved a panel of judges discussing and voting on each proposed indicator. However, in the specific case of social love, it emerged that the WVS 6 and WGI 2015 surveys mainly made available indicators relating to values and attitudes, with few references to concrete actions. Since the dimension of action is fundamental in social love as it is eminently practical, the lack of indicators relating to action can constitute a limit.

Furthermore, some indicators have proven difficult to apply uniformly to different socio-cultural contexts. For example, items such as "donate money to a charity?" or "spend time volunteering with an organization?" presuppose specific social contexts such as the availability of financial resources, the presence of organized third-sector institutions, and time structuring, which may not be easily transferable to rural or non-Western contexts. These limitations are inherent to using secondary data, which often has limited indicators. Furthermore, the surveys are tools designed for Western, Educated, Industrialized, Rich, and Democratic (WEIRD) people and societies (Henrich et al. 2010; Ghai 2021). This especially concerns studies on well-being and happiness (Lomas 2022).

Two approaches have been proposed to overcome the secondary investigation's structural limits with survey data. Firstly, strengthening the indicators relating to the context and public policies in the second wave of the WLI to balance the survey data is a possibility. Secondly, exploring the opportunity to integrate the index with primary surveys to design ad hoc indicators more sensitive to different socio-cultural contexts.

5. Methods of the World Love Index's Second Wave

The limitations of the first wave of the WLI require designing empirical strategies to create the second wave of the WLI, where these limitations are turned into strengths. The main weakness of the first wave of the World Love Index is that only 55 countries are covered by WVS 6 and WGI 2015, requiring an empirical strategy to enlarge the number of countries. For this reason, the second wave of the WLI integrates data from the joint survey carried out by the World Values Survey and the European Values Study together (EVS-WVS 2017–2022) and the data of the World Giving Index 2022 (WGI 2022).

The European Values Study is a research program similar to the World Values Survey. It is a large-scale, cross-sectional, and longitudinal scientific project created in 1981 to investigate European human values, inquiring about European citizens' opinions, attitudes, beliefs, and values related to the context of daily life, work, religion, and politics, by administering a structured questionnaire in around 35 European countries (one wave is conducted once a decade). Considering that EVS and WVS have similar scientific purposes and investigate human values using similar quantitative methodology, they signed a memorandum of understanding in 2017 to conduct one joint survey whose fieldwork lasted from 2017 to 2022. EVS and WVS agreed to have a part of two questionnaires' items in common: joint items are administered by EVS in Europe and by WVS in the rest of the world. Thanks to these agreements, 90 countries are included in the EVS-WVS 2017–2022 project, giving life to the most exhaustive world survey on human attitudes and values. The EVS-WVS 2017–2022 dataset is integrated into the second wave of the WLI to tackle the absence of Mediterranean and Central–Western European countries from the first wave of WLI.

The other data source of the second wave of the WLI is the World Giving Index 2022. Following the same strategy employed for the first wave of the WLI, GWP data are replaced by WGI data based on the questions asked by the World Gallup Poll to respondents worldwide. The Charity Aid Foundation used 2009–2021 GWP data to create the WGI 2022

to rank 119 countries in their generosity, making the GWP data publicly available. Thanks to the integration of EVS-WVS 2017–2022 and WGI 2022 datasets, the data matrix of the second wave of the WLI was created with 87 countries, which the two datasets have in common, increasing the number of countries by 32 units compared to the first wave.

The new basket of indicators employed for the second wave of the WLI was validated by experts in social love. Indeed, a new content validation procedure was necessary because the EVS-WVS 2017–2022 questionnaire changed compared to the preceding waves conducted by WVS and EVS individually. To respond to the necessity of finding new indicators of WLI from secondary data sources and, at the same time, to overcome the critics related to the indicators of the first wave of WLI, the experts evaluated the semantic validity of the new basket of indicators, following the same procedure adopted during the construction of the first wave. Table 3 shows the final list of the indicators chosen for constructing the second wave of WLI. The first wave's indicators, which are most appreciated by the experts, are proposed again for the second wave; the others are changed.

The geographical coverage has expanded to include 87 countries, addressing a more critical point from the first wave: advanced analyses can now be conducted using techniques to treat the variables in a multivariate approach.

Table 3. The indicators of the second wave of the citizens WLI.

Social Love Dimensions	Indicators	Aggregation Criterion	Source
Overabundance	Have you done any of the following in the past month? How about volunteered your time to an organization? (Yes/No)	Yes	GWP
	Have you done any of the following in the past month? How about donated money to a charity? (Yes/No)	Yes	GWP
	Do you belong to a humanitarian or charitable organization? (Mentioned/Not mentioned)	Mentioned	WVS-EVS
	Do you belong to conservation, the environment, ecology, or animal rights organization? (Mentioned/Not mentioned)	Mentioned	WVS-EVS
	Have you done any of the following in the past month? Have you helped a stranger or someone you did not know who needed help in the past month? (Yes/No)	Yes	GWP
Care	Here is a list of qualities which children can be encouraged to learn at home. Is unselfishness the most desirable for a child? (Mentioned up to five/Not mentioned)	Mentioned up to five	WVS-EVS
	Which of them comes closer to your own opinion? (1) Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs. (2) Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.	Protecting the environment	WVS-EVS
	When jobs are scarce, employers should give priority to national people over immigrants. (Strongly agree/agree/neither/disagree/strongly disagree)	Strongly disagree + Disagree	WVS-EVS
Recognition	Here is a list of qualities which children can be encouraged to learn at home. Is tolerance and respect for other people the most desirable for a child? (Mentioned up to five/Not mentioned)	Mentioned up to five	WVS-EVS
	Could you tell me whether you trust people of another religion? (Completely/Somewhat/Not trust very much/Not trust at all)	Completely + Somewhat	WVS-EVS
	Could you identify homosexuals as a group that you would not like to have as neighbours? (Mentioned/Not mentioned)	Not mentioned	WVS-EVS
	Could you identify people of a different race as a group that you would not like to have as neighbours? (Mentioned/Not mentioned)	Not mentioned	WVS-EVS

Table 3. *Cont.*

Social Love Dimensions	Indicators	Aggregation Criterion	Source
Universalism	Could you tell me whether you trust people you meet for the first time? (Completely/Somewhat/Not trust very much/Not trust at all)	Completely + Somewhat	WVS-EVS
	Would you say that most people can be trusted or that you can't be too careful in dealing with people? (Most people can be trusted/can't be very careful)	Most people can be trusted	WVS-EVS
	Could you tell me whether you trust people of another nationality? (Completely/Somewhat/Not trust very much/Not trust at all)	Completely + Somewhat	WVS-EVS
	Could you identify immigrants and foreign workers as groups that you would not like to have as neighbours? (Mentioned/Not mentioned)	Not mentioned	WVS-EVS

In the first wave of the WLI, the ecological index was constructed based solely on two indicators, a noted limitation. Regarding this critical matter, the second wave involved extensive consideration and complete restructuring of the ecological index. The first step was to broaden the selection of indicators. This allowed for a reflection on the semantic aspect of the index now referred to as the institutional social love index (as opposed to the WLI based on survey data, representing citizens' social love). The institutional WLI is based on the four constitutive dimensions of social love: overabundance, care, recognition, and universalism. It is articulated in continuity with the citizens' WLI and draws from various sources.

Concerning the overabundance dimension, the indicators are sourced from the United Nations Sustainable Development Goals database (UN-SDGs[2]) and The World Bank data (WB data[3]). The UN Data Commons for the SDGs integrates reliable data and insights on the SDGs from across the UN System into a public repository with advanced search capabilities. The goal is to make high-quality datasets and digital public goods available to users, enabling seamless exploration of diverse statistical datasets, as well as the annual global SDG report and analysis. The data source used for the care dimension is the United Nations Human Development Report 2021–2022 data portal (UNDP HDR 2021–2022[4]). The Human Development Report was compiled in 1990 and introduced a new approach to promoting human well-being. The human development approach is about expanding the richness of human life rather than simply the richness of the economy in which human beings live. The report is published biennially and covers various aspects of society, including environmental concerns, gender equality, and poverty. The data for the Recognition dimension is sourced partly from the UN Human Development Report 2021–2022 data portal and partly from the Inclusiveness Index[5]. The Othering and Belonging Institute of the University of California, Berkeley produces this annual index, which promotes research that examines processes of exclusion, marginalisation, and structural inequality through the study of issues related to equity, justice, land care, marginalisation, and inclusion, including studies on disability, public health, race and education, LGBTQI+ citizenship, religious pluralism, etc. Finally, regarding concerns about the universalism dimension, the data source used is The Good Country Index[6]. This index was created in 2014 to measure each country's contribution to the common good of humanity and what it takes away about its dimensions. The index is currently in its fifth edition and covers various topics, including science and technology, culture, international peace and security, world order, planet and climate, and others. The basket of indicators is presented in Table 4.

The institutional WLI, formed by this new set of indicators identified for its four constituent dimensions, has a broader informational scope. This change represents a shift from weakness, as reported in the first wave, to strength in the process of operationalizing social love.

Table 4. The indicators of the second wave of the institutional WLI.

Social Love Dimensions	Indicators	Year	Source
Overabundance	Migration policy Domain 1. Migrant rights: degree to which migrants have equity in access to services, including health care, education, decent work, social security and welfare benefits.	2021	UN-SDGs
	Migration policy Domain 4. Socioeconomic well-being: government measures to maximize the positive development impact of migration and the socioeconomic well-being of migrants.	2021	UN-SDGs
	Migration policy Domain 5. Mobility dimensions of crises: government measures to deliver comprehensive responses to refugees and other forcibly displaced persons.	2021	UN-SDGs
	Migration policy Domain 6. Safe, orderly and regular migration: government measures to address regular or irregular immigration.	2021	UN-SDGs
	Refugee population by country or territory of asylum: refugees are people who are recognized as refugees under the 1951 Convention Relating to the Status of Refugees or its 1967 Protocol, the 1969 Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, people recognized as refugees in accordance with the UNHCR statute, people granted refugee-like humanitarian status, and people provided temporary protection. Asylum seekers are excluded.	2022	WB data
Care	Carbon dioxide emissions (production) index: carbon dioxide emissions per capita (production-based) expressed as an index with a minimum value of 0 and a maximum value of 68.72 tonnes per capita. A high value implies less pressure on the planet.	2020	UNDP HDR 2021–2022
	Renewable energy consumption: share of renewable energy in total final energy consumption. Renewable sources include hydroelectric, geothermal, solar, tides, wind, biomass and biofuels (% of total final energy consumption).	2019	UNDP HDR 2021–2022
Recognition	Proportion of ethnic minorities who lack political power.	2022	Inclusiveness Index
	Gender Inequality Index: a composite measure reflecting inequality in achievement between women and men in three dimensions: reproductive health, empowerment and the labour market.	2021	UNDP HDR 2021–2022
	Equaldex index for LGBTQ rights.	2022	Inclusiveness Index
	Index of government laws, policies and actions that restrict religious beliefs or practices.	2022	Inclusiveness Index
	Index of laws against discrimination of people with disability.	2022	Inclusiveness Index
Universalism	Voluntary excess contributions to World Health Organisation (WHO) relative to the size of the economy.	2020	The Good Country Index
	International Health Regulations Compliance (according to WHO).	2020	The Good Country Index
	Humanitarian aid donations	2020	The Good Country Index

In particular, the process of operationalisation and construction of the two social love indices in the second wave was informed by a double-validation procedure. In addition to the involvement of an international panel of experts on several occasions, a confirmatory factor analysis (CFA) was conducted in the second wave, extracting only one factor per dimension. This analysis aimed to confirm the ability of the factor extracted for each dimension to represent the latent concept. The factor was used as a dimensional index. Table 5 presents a summary of the results of the confirmatory factor analysis (CFA). It

includes the level of significance recorded for Barlett's sphericity test and the percentage of variance explained by each extracted factor. Upon completion of the CFA, the four factors extracted for the Citizens' WLI were regrouped into a single synthetic index through an additive procedure. The same procedure was then applied to the four-dimensional indices of the Institutions' WLI.

Table 5. Confirmatory factor analysis results.

Citizens' WLI		
Social Love Dimensions Indices	**% of Variance**	**Bartlett's Test of Sphericity Sign.**
Overabundance index	57,606	0.000
Care index	53,856	0.000
Recognition index	66,664	0.000
Universalism index	66,853	0.000
Institutions' WLI		
Social Love Dimensions Indices	**% of Variance**	**Bartlett's Test of Sphericity Sign.**
Overabundance index	41,380	0.000
Care index	69,356	0.000
Recognition index	46,902	0.000
Universalism index	49,516	0.001

The second edition of the WLI does not resolve all limitations. However, changes were made based on feedback from the academic community, resulting in an improved and more robust index.

6. Conclusions

This article analyses and discusses the procedures and methodological aspects of constructing the WLI. This contribution presents the composition and procedures that led to creating the indices of social love of citizens and institutions. However, due to space constraints, the results of the analyses could not be fully presented. These will be comprehensively addressed in other contributions.

In conclusion, the second wave of the WLI marks an advancement in understanding global phenomena related to love and human relationships. An important strength is represented by its implementation as a longitudinal survey, intended to be repeated over time, offering a dynamic vision of the evolution of social love worldwide. This perspective over time allows us to delve deeper into trends in behaviors, policies, and perceptions related to social love.

From a methodological point of view, the second wave of the WLI also represented an opportunity to reflect on the first wave's experiences and strengthen the investigation, seeking solutions to overcome the limitations and critical issues that emerged in the first wave. This continuous evaluation and implementation process has allowed us to improve the data's robustness and reliability and adapt the index to the changing needs and challenges of the contemporary social context.

Its extension to around 90 countries, including Europe, offers a broader and more diverse view than previous data sources. However, this remains a limitation, especially regarding the exclusive availability of nationally aggregated data. This hinders a detailed and in-depth analysis of local and regional dynamics, thus limiting the ability to fully understand the context in which behaviors and attitudes related to social love and relationships occur.

Another strength is that it expanded the basket of indicators constituting the index of the institutions. This development has led to two complementary measures being available, rich in different information: the index of social love of citizens and the index of social

love of institutions. While the first is based on survey data to evaluate citizens' attitudes, behaviors, and opinions of love towards others and the world, the second index measures how much institutions are oriented toward love. The latter was particularly enriched with new indicators selected from different sources and organized on the four dimensions of social love, mirroring that of citizens. It has the advantage of being a robust index based on internationally reliable data sources, thus providing a more complete picture of institutions' approach to social love. This also responds to the need to overcome the limits of questionnaire survey research, which presents questions that are often more appropriate for citizens of Western culture and are difficult to adapt to different cultures and contexts (Henrich et al. 2010; Smith 2012). By looking at institutions, we can also have a multidimensional perspective on social love at a global level.

A further point of reflection concerns the choice of a quantitative approach to the study of social love. As explored above, the sociological literature has traditionally focused on a theoretical analysis of social love and, at an empirical level, mainly through qualitative approaches. Indeed, qualitative studies are the most suitable to reflect the complexity of such a concept and to analyze the phenomenon in more depth. Our research group has also conducted many qualitative studies on social love, analyzing around twenty different case studies (Cataldi and Barbara 2019). However, in this case, the research team chose a quantitative approach with secondary analysis. Although having to deal with a reduction of the concept and the simplification of its nuances, this approach offers the possibility of conducting a study at a global level and making transnational comparisons by entering into the debate on measures beyond GDP.

Regarding survey data, there remains the prospect of consolidating this experience through collecting primary data via specific questionnaires designed to study social love. This approach would have the advantage of using indicators with more accurate semantic coverage of the concept of social love than those from secondary sources not explicitly designed to examine this concept. For this reason, the research group has dedicated efforts to crafting an extensive survey on a national scale in Italy. This initiative enables an in-depth analysis centered on a specific geographical context, with the potential for future extensions to facilitate broader comparative studies across different contexts. The survey encompasses 1200 participants from diverse geographical regions in Italy, representing various age groups. Its primary objective is twofold: to enhance the understanding derived from the index by leveraging supplementary secondary data and to empirically validate select indicators utilized in the citizens' WLI. However, it is essential to consider that such primary surveys in the long term may take more work to sustain in terms of costs and resources. Therefore, they could complement the longitudinal analysis of the WLI, offering a more detailed and in-depth perspective on specific aspects of social love. This integration between primary data and the main index could further enrich our understanding of social love and its dynamics across time and space.

The potential of the WLI should also be considered in terms of making social love visible, a phenomenon often overlooked in the scientific field but of importance for the well-being of citizens and for the design of policies oriented towards the common good. Ultimately, the WLI can serve as a tool to bring attention to this fundamental aspect of social life, highlighting countries and institutions that show more significant commitment to encouraging and promoting social love. This can be useful not only for assessing social progress and the well-being of citizens but also for informing and guiding political action. The information provided by the WLI can be used to design well-being-oriented public policies, for example, encouraging positive relationships, cooperation between individuals and communities, protecting the natural environment, and social inclusion and solidarity.

In summary, the WLI provides a detailed overview of global social love and offers a solid basis for implementing public policies to create more equal and inclusive societies for all citizens and promote individual and collective well-being.

Institutional Review Board Statement: Not applicable.

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Data Availability Statement: Data is available upon request at this website: http://www.worldloveindex.net/ (access date 31 March 2024).

Notes

1   https://www.isa-sociology.org/en/research-networks/thematic-groups/tg12-social-love-and-solidarity (accessed on 10 April 2024).
2   https://unstats.un.org/sdgs/dataportal/database (accessed on 10 January 2024).
3   World Bank (2022), http://data.worldbank.org accessed on 10 January 2024).
4   https://hdr.undp.org/data-center (accessed on 10 January 2024).
5   Menendian et al. (2021), https://belonging.berkeley.edu/inclusiveness-index (accessed on 10 January 2024).
6   https://index.goodcountry.org/ (accessed on 10 January 2024).

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