Social Cohesion Radar
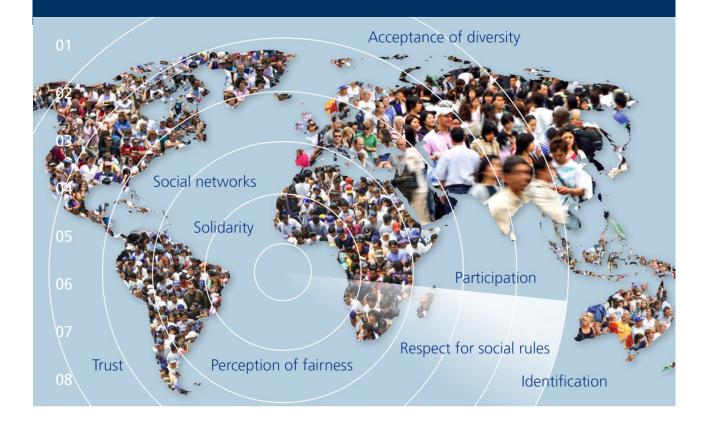## Measuring Common Ground

An international Comparison of Social Cohesion
A brief Introduction into the Methods

Acceptance of diversity

01
02
03
Social networks
04
Solidarity
05
06
Participation
07
Trust
Perception of fairness
Respect for social rules
08
Identification

Bertelsmann**Stiftung**

Social Cohesion Radar

Measuring Common Ground

An International Comparison of Social Cohesion
A brief Introduction into the Methods

Contact

Dr. Kai Unzicker
Project Manager
Social Cohesion Radar
Bertelsmann Stiftung
Phone +49 5241 81-81 405
Fax   +49 5241 81-681 131
kai.unzicker@bertelsmann-stiftung.de

www.bertelsmann-stiftung.de
www.social-cohesion.net

1 Social cohesion: Nine dimensions and three domains

The Social Cohesion Radar, an initiative of the Bertelsmann Stiftung in cooperation with scientists from Jacobs University Bremen, measures social cohesion in 34 countries over a period of nearly 25 years, from 1989 to 2012. Social cohesion is conceived to be a characteristic of a society that is comprised of nine dimensions. These dimensions, in turn, are grouped in three overarching domains:

- Social relations
    - Social networks
    - Trust in people
    - Acceptance of diversity
- Connectedness
    - Identification
    - Trust in institutions
    - Perception of fairness
- Focus on the common good
    - Solidarity and helpfulness
    - Respect for social rules
    - Civic participation

2 Social cohesion cannot be measured directly

Unlike the average annual temperature, for example, social cohesion cannot be measured directly. Instead, it is captured with a number of individual indicators that are combined in a complex process to form an index. The measurement of *intelligence* presents comparable challenges. Unlike weight or height, intelligence cannot be measured directly, but only by combining numerous test questions (individual indicators) to create an intelligence test. Characteristics like intelligence or, in our case, social cohesion that cannot be directly measured are often referred to as constructs, *factors* or *latent* characteristics.

3 From 58 individual indicators to an index for 34 countries

To measure a latent characteristic of this kind, appropriate indicators must be selected, which we did based on theory and plausibility. Possible indicators for countries include mean values from surveys, expert assessments and data obtained from institutions (such as the OECD or the World Bank). A total of 58 indicators were selected from 12 different sources. Each indicator was assigned to one of the nine dimensions of social cohesion.

4   Which indicators best measure cohesion?

After indicators had been selected for each dimension, the next step was to determine empirically whether all of these indicators actually measure the same characteristic (e.g. trust in people). This can be done using a statistical method called *factor analysis*, which makes it possible to determine the extent to which an indicator captures an underlying construct that cannot be measured directly (in our case, a specific dimension of social cohesion). So-called *factor loadings* show how well an indicator measures a latent characteristic (e.g. trust in people). Factor loadings have values ranging between 0 and 1 if the indicators are structured so that low values indicate a low level of the relevant characteristic (e.g. perception of fairness) and high values indicate a high level. If the indicators are not structured in an equidirectional manner, factor loadings can range from -1 to + 1.

Values over 0.25 are usually interpreted to mean that an indicator adequately measures a latent characteristic. In accordance with that guideline, we used a factor analysis to select the appropriate indicators. It showed that the indicators "fit" the dimensions that they were being used to measure. Methodological literature refers to this as *reflective indexing* (the indicators reflect the level of the latent characteristic).

When the indicators that adequately measure a specific dimension have been identified, the factor analysis generates values for specific countries, which are referred to as *factor scores*. While factor loadings show how well an indicator is able to measure a specific factor, a factor score shows the level of a latent characteristic in a given country (in our case), measured using the indicators that relate to the respective factor – for example, the degree to which people in Germany trust others. The factor score includes the indicators for each country, taking into account their respective factor loading (indicators that are better at measuring the factor are weighted more heavily than indicators that are less closely correlated with the factor). Theoretically, factor scores can range from minus infinity ($-\infty$) to plus infinity ($+\infty$). In practice, however, it is rare for factor scores to exceed a range between -3 and +3. The factor scores calculated for our nine dimensions vary substantially. This means that the 34 countries differ to varying degrees with respect to the nine dimensions. A logical final step, therefore, was to standardize the factor scores – in other words, to ensure that the country measures for all dimensions were within the same range (*z standardization*).

By conducting a factor analysis for each country and for each of the nine dimensions, we calculated a value referred to as an *index*. We then combined the nine dimensions in our three domains of social cohesion by calculating the mean values of the three dimensions included in each domain. The overall index of social cohesion is calculated by averaging all nine index scores for the individual dimensions. This procedure is based on what is referred to in the literature as *formative indexing* (the subindices/individual indicators form the overarching characteristic).

5   Identifying the five groups

These index scores – both for the overall index of social cohesion and for the nine individual dimensions – form the basis for assigning countries to the five groups. Uniform threshold values for each dimension were used to determine where one group ended and the next began. All of the dimension values were standardized in this process, i.e. they had a mean value of zero and a standard deviation of one. The threshold values were determined in a way that ensured a normal distribution (bell-shaped curve), with approximately 20 percent of the countries in each group. For our sample of 34 countries, this meant that there would normally be six countries in the middle group and seven in each of the others. We used the same procedure for grouping the countries in the overall index, which is based on the mean of all of the dimension values. The empirical values in the dimensions, however, do not have a normal distribution. As a result, the individual dimensions and the overall index may differ with respect to the number of countries in each group.

The complete methods report and the whole study are available at: www.social-cohesion.net.

Contact

Dr. Kai Unzicker
Project Manager
Social Cohesion Radar
Bertelsmann Stiftung
Phone +49 5241 81-81 405
Fax   +49 5241 81-681 131
kai.unzicker@bertelsmann-stiftung.de

www.bertelsmann-stiftung.de
www.social-cohesion.net

BertelsmannStiftung