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Klaus Boehnke · Kai Unzicker

Social Cohesion in the Western World

What Holds Societies Together: Insights from the Social Cohesion Radar

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Georgi Dragolov
Bremen International Graduate School
of Social Sciences
Jacobs University Bremen
Bremen
Germany

Zsófia S. Ignácz
Institute of Sociology
Freie Universität Berlin
Berlin
Germany

Jan Lorenz
Bremen International Graduate School
of Social Sciences
Jacobs University Bremen
Bremen
Germany

Jan Delhey
Institute for Sociology
Otto-von-Guericke Universität Magdeburg
Magdeburg
Germany

Klaus Boehnke
Bremen International Graduate School
of Social Sciences
Jacobs University Bremen
Bremen
Germany

Kai Unzicker
Bertelsmann Stiftung
Gütersloh
Germany

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Foreword

Measuring Common Ground: Bertelsmann Stiftung's Social Cohesion Radar

What holds society together? What is the proverbial glue that transforms diversity into a coherent unit in the twenty-first century? This issue is being discussed almost all over the world, in one form or another. As a result, the concept of "social cohesion" has taken on an increasingly important role in recent years. Today it is a central political and social challenge—from the local to the national, and even the international level.

In 1977 Reinhard Mohn founded Bertelsmann Stiftung with the aim to encourage people to campaign for their causes and to promote a society that presents fair opportunities for all. It is therefore not surprising that social cohesion has been a major issue for Bertelsmann Stiftung for years.

In a series of publications addressing issues of social interaction, Bertelsmann Stiftung directed its focus at the end of the 1990s to the subject of cohesion. Besides various smaller publications (Weidenfeld & Rumberg 1994; Berger & Luckmann 1995; Dettling 1995), two collective volumes particularly stand out. *Limits of Social Cohesion*, edited by Peter L. Berger, was published in 1999/1998 as a report to the Club of Rome. Two years later it was followed by *Democracies in Flux*, edited by Robert D. Putnam. This volume examined changes in social capital in eight countries: Australia, Germany, France, Japan, Sweden, Spain, the United Kingdom, and the United States.

The modern world is characterized by a growing sense of insecurity and unrest, wrote then-president of the Club of Rome, Ricardo Diez-Hochleitner (1999), in the preface to *Limits of Social Cohesion*. In the introduction to the same book, Volker Then posed a central question that is just as relevant today as it was then—namely, how to handle the conflicts that become more and more inevitable as a result of increasing pluralism and the erosion of common value systems in quickly changing societies. He explicitly rejected the notion that the solution might lie in the restoration of a past homogeneity of values. In heterogeneous societies, a normative consensus can be reached only at the cost of liberty. And yet, complete relativism

and laissez-faire policies are also unrealistic approaches. Instead, it is important to find an arrangement that accepts diversity and at the same time establishes cohesion (Then 1999).

The tension between homogeneity and conformity on the one hand, and heterogeneity and individuality on the other, is still a decisive factor in today's social reality. Neither extreme can ensure cohesion in the future. Social interaction will rather oscillate between these two poles. How much does a society need to have in common in order to exist as a social unit, without placing too many restrictions on diversity?

For a long time, religion was considered an integral institution and the ultimate source of a society's foundation of values. Consequently, at the start of the twenty-first century, Bertelsmann Stiftung first turned its focus toward the role of religion in social interaction. The first Religion Monitor, a quantitative survey on faith and religious beliefs in 21 countries, was published in 2008 (Bertelsmann Stiftung 2008). Today, with its Social Cohesion Radar and Religion Monitor, Bertelsmann Stiftung is equipped with two empirical instruments for studying social interaction. Since the second wave of the Religion Monitor (Bertelsmann Stiftung, 2013), the topic of social cohesion has been explicitly added to the report's agenda. It surveyed 13 countries (Brazil, Canada, France, Germany, India, Israel, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States) and examined whether religion or religiosity constitutes more of a connecting or a separating element in societies (Bertelsmann Stiftung 2012). The results were mixed. On the one hand, the study pointed to a disconcertingly high level of negativity among the surveyed populations (with the exception of Turkey) toward Islam. Islam was viewed as threatening and not belonging to the West. On the other hand, the Religion Monitor showed that many virtual bridges exist between the various faiths, so it would be inaccurate to speak of a religious division in the societies. On the basis of data from the Religion Monitor, Richard Traunmüller (2015) examined the network of relationships between religions. He concluded that fears of a negative impact on social cohesion due to a growing religious diversity were ungrounded. And yet, the dividing lines between religions and their adherents can lead to conflicts that place an ongoing strain on social cohesion. The caricature controversy of 2005 and 2006 already brought this to the general public's attention. That is why the relationship between religions and other communities of shared values will remain a central issue for Bertelsmann Stiftung, which it will continue to track with the help of the Religion Monitor.

Bertelsmann Stiftung's Social Cohesion Radar is a further tool for examining social transformation processes and their impact on the social fabric of societies. It expands the viewer's perspective beyond the role of religion, to the connections and developments affecting society as a whole. This book presents the concept behind the tool and the results of the initial studies. It is for good reason that this instrument is called Social Cohesion Radar. A radar allows us to see things that are invisible to the naked eye. The Social Cohesion Radar provides a view of the current state of social cohesion and shows how it is changing; ideally, offering thereby the possibility to identify threats to cohesion at an early stage.

In the context of public discourse, social cohesion would typically be only mentioned when actors complain of a lack of cohesion. In this sense, it is generally used to describe a crisis. There is additional concern that social cohesion will be negatively affected by major social challenges—be it demographic change, financial and economic crises, increasing migration, stronger international competition, greater mobility, or value change. A growing number of people believe that advanced modernization may contribute to the gradual loss of society's sense of solidarity, commitment, and interaction. That is why some wish for a return to the past, when social interaction was considered more personable, more stable, more sincere, or more moral.

There is no question that modern societies have, in fact, changed. However, it is generally uncertain whether increased immigration, changes in the workplace, individualized lifestyles, major social disparity, or other related changes have actually led to a weakening of social cohesion. And yet, various examples can be found for this line of argumentation.

When we began our initial preparations for Bertelsmann Stiftung's Social Cohesion Radar in the summer of 2011, the United Kingdom was being shaken by violent unrest. A policeman had shot a 29-year-old black man in London's Tottenham district on August 4. In the following days, what began as peaceful demonstrations escalated into violent riots that expanded throughout London and then spread to other major cities. The situation did not settle until August 11. Five lives were lost. British Prime Minister David Cameron addressed the British people on August 15. In his speech, he diagnosed a widespread moral crisis in the society. He spoke of "moral decline" and "bad behavior" and called on the people to join in a process of healing (Cameron 2011). This diagnosis represents an attitude that is frequently encountered—one that takes a pessimistic view of modern society as such. A similar argument was used in 2005, when French suburbs were experiencing rioting. And the same explanation arose in connection with the outbreak of violence in the U.S. town of Ferguson in 2014. It is the perception that societies are split and that conflicts are drawing lines of division. Even U.S. President Obama, in reference to the Ferguson riots, spoke of wounds that needed to be healed (Obama 2014).

The year of 2011 also marked the start of the global Occupy movement in New York. Beginning in September of that year, participants gathered under the Occupy Wall Street banner to protest the uneven distribution of wealth and power. While the riots from London to Ferguson were attributed to racial animosity and a failure of immigrants to integrate, Occupy focused on the social division related to income and assets. The battle cry "We are the 99 %" echoed throughout many other countries. Publications such as *The Spirit Level* by Wilkinson and Pickett (2010), *Time for Outrage* by Stéphane Hessel (2010), and *Capital in the Twenty-First Century* by Thomas Piketty (2013) emerged as the bestsellers of recent years. While Wilkinson and Pickett show that equality leads to more life satisfaction, better health, and greater wealth, Piketty provides historical evidence for the undefined sense that societies are becoming increasingly unequal. Hessel, in turn, issues an angry appeal, calling for an urgent change to the present circumstances.

The report of the Commission on the Measurement of Economic Performance and Social Progress, commonly referred to as the Stiglitz-Sen-Fitoussi Commission, also received considerable attention. In the report (Stiglitz et al. 2009), the commission recommends placing a stronger focus on aspects related to the distribution of goods in society (e.g., income, assets, and consumption) in the measurement of wealth. Additionally, the measurement should incorporate non-monetary factors related to quality of life (e.g., health, education, and political participation).

These examples are intended to show that the debate over what constitutes a good life and how interaction should be shaped in heterogeneous societies has really taken on new momentum in recent years. Perceived moral decay, increasing social inequality, and growing ethno-cultural diversity are generally seen as challenges to society's cohesion. With this comes an undefined sense that something in modern societies is fundamentally wrong, that the centrifugal forces are becoming too great, and that the cohesive framework is collapsing. A survey in eight European countries reveals a sense of disorientation among a majority of the population (Zick et al. 2011).

Despite the frequent references to a crisis of cohesion and the prevailing sense of disorientation among large sections of the population, a clear definition of the concept of "cohesion" still seems to be missing. Canadian sociologist Paul Bernard (1999) criticized social cohesion as a quasi-concept whose success largely rests on the lack of a clear definition. Its sheer vagueness results in it being used in every imaginable context in the sphere of public discussion. Bernard is right to the extent that, if cohesion is going to be used as a political variable, it is essential that the concept be clearly defined. This is exactly the challenge the Social Cohesion Radar has accepted. It was crucial to avoid viewing cohesion as a fuzzy variable. Instead of falling for the temptation to combine all conceivable and desirable qualities of society under the label of cohesion, the Radar asserts that cohesion can be measured and understood only if it is isolated from other social phenomena such as inequality, poverty, or life satisfaction.

Another point of debate is whether a consensus of values in our increasingly diverse societies can be considered a crucial component of social cohesion. An aspect of even greater interest is determining how much consensus is conducive to cohesion—particularly with regard to shared values. This, too, can only be examined empirically if values and cohesion are not grouped into a single unit but rather viewed as separate phenomena in a cause and effect relationship.

In the Radar, social cohesion is defined as the quality of interaction among the members of a community. This quality is expressed in the following three core aspects:

- First, in resilient social relationships—that is, in the horizontal network spanning the individual members and groups in a society;
- Second, in the positive emotional ties between individuals and their community and its institutions;

- Third, in a focus on the common good—that is, the actions and attitudes of the members of society that demonstrate responsibility for others and for the community as a whole.

Besides defining the concept, the Radar employs real-life data in sophisticated statistical techniques to provide a multitude of reliable empirical evidence on the current level of social cohesion and its progression over time. Transferring the theoretical concept of cohesion into an empirically measurable phenomenon was the second important goal of the Social Cohesion Radar. Tracking social cohesion over time constitutes a significant advantage, since it enables us to verify whether an erosion of cohesion is in fact taking place—or has already taken place—as anticipated in public discussions. The three concerns described above—moral decay, increasing social inequality, and growing social diversity—are processes that each refer back to the past, when cohesion was perceived to be stronger. That is why these developments can be better assessed when viewed in connection with their overall trend. The empirical evidence offers in addition a comparison of different countries. Cohesion is difficult to determine in absolute values but can be analyzed in terms of contrasts between societies. This analysis makes it possible to learn from the experiences and approaches of different countries.

Last but not least, the Social Cohesion Radar successfully fulfilled its third goal to offer insights into the determinants and outcomes of cohesion. Advancements towards achieving a knowledge society and economic prosperity have a positive impact on cohesion in the examined countries. Thus, it cannot be concluded that cohesion is weakening as a result of modernization. It is evident, however, that greater inequality within a society goes hand-in-hand with weaker cohesion. Hence, the concern that greater disparities between society's poor and rich strata present a greater risk for cohesion is not completely unfounded. And yet, the number of foreign nationals living in a particular country does not have a notable influence on the cohesion in that country. So, securing wealth and fighting inequality appear to be the better strategy for ensuring cohesion, as opposed to returning to a traditional homogeneity that is perceived as more stable. In turn, strong cohesion translates into happiness for all.

We were able to secure an exceptional team of researchers to carry out the study; they not only handled the conceptual development of the project but also systematically implemented it. First and foremost, we wish to thank Klaus Boehnke and Jan Delhey, who supervised this study with great academic expertise and vision. We would also like to extend our gratitude to their team: First, to Jolanda van der Noll and David Schiefer, who laid out the theoretical foundations of the Social Cohesion Radar in an extensive preliminary study. And in particular, to Georgi Dragolov, Zsófia Ignácz, and Jan Lorenz, who conducted the empirical analyses and skillfully compiled their findings in this book.

To Bertelsmann Stiftung, the studies on social cohesion in 34 EU and OECD countries as well as in the 16 federal states of Germany represent a logical continuation of the publications and studies that began at the turn of the millennium

with our collaboration with Peter Berger and Robert Putnam. We will continue this work and turn our focus toward other regions of the world, taking a closer look at social conditions at the local, regional, and country levels.

Stephan Vopel
Director of the Living Values Program, Bertelsmann Stiftung

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Contents

About the Authors

Georgi Dragolov holds degrees in Integrated Social Sciences (BA) from Jacobs University Bremen and in Sociology and Social Research (M.Sc.) from Utrecht University. He is currently completing his Ph.D. in Sociology at the Bremen International Graduate School of Social Sciences (BIGSSS). In recent years he has been working as Research Associate at Jacobs University Bremen in the Social Cohesion Radar project. His research interests are in the field of income inequality and subjective well-being.

Zsófia S. Ignácz holds degrees in Sociology from Eötvös Loránt University in Budapest (MA), and from Humboldt Universität zu Berlin (Ph.D.). She is currently working as Lecturer and Research Associate at the Institute of Sociology at Freie Universität Berlin. From 2012 to 2014 she was Research Associate at Jacobs University Bremen in the Social Cohesion Radar project. Her research interests are in the field of distributive justice and social inequality.

Jan Lorenz holds a diploma and a doctoral degree in mathematics. He is currently working as Senior Researcher in his own DFG research project in the field of opinion dynamics at Jacobs University Bremen. From 2012 to 2014 he was Research Associate at Jacobs University Bremen in the Social Cohesion Radar project. His research interests are in the field of mathematical modeling of opinion dynamics for the social and political sciences.

Jan Delhey holds the Chair of Macrosociology at Otto-von-Guericke-Universität Magdeburg. He earned his Ph.D. in Sociology from Freie Universität Berlin. Before he accepted an offer to Magdeburg, he was Professor of Sociology at Jacobs University Bremen and Co-PI of the Social Cohesion Radar project, which he continues to co-head. He is associate editor of the Journal of Happiness Studies. Jan Delhey's research oeuvre encompasses work on quality of life, trust, social inequality, and European integration. He has published his work in top journals like the *American Sociological Review*.

Klaus Boehnke holds a professorship in social science methodology at Jacobs University Bremen. He earned his Ph.D. in Psychology from Technische Universität Berlin. He is also the Vice Dean of the Bremen International Graduate School of Social Sciences (BIGSSS) and Co-PI of the Social Cohesion Radar project. Before he came to Bremen, he was Professor of Socialization Research and Methodology at the Department of Sociology of Technische Universität Chemnitz. Klaus Boehnke's research oeuvre encompasses work in diverse spheres of political socialization. He has published his work in leading journals like *Science*.

Kai Unzicker is Senior Project Manager at Bertelsmann Stiftung in Gütersloh, Germany, and is heading the Social Cohesion Radar project. He holds a degree in sociology from Philipps-University Marburg and a doctoral degree in educational science from the University of Bielefeld. Before joining Bertelsmann Stiftung he was a Research Associate at the Institute for Interdisciplinary Research on Conflict and Violence (University of Bielefeld).

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Introduction

Studying social cohesion essentially boils down to the question as to what encourages a group of people to act as one. The members of a group are linked by cooperative bonds that originate in human evolution: Human beings were able to successfully reproduce because they learned to cooperate with others. This ability to engage in cooperative social behavior was applied in the course of human history to increasingly wider contexts, from clans to tribes, peoples, nations, and supranational entities (Rifkin 2009). Interestingly, the ability to form tight cooperative social bonds is also one of the forces that causes groups to break apart. When cooperative social bonds become tighter within a subgroup of a larger group, the corresponding bonds between the subgroup and members of the larger group naturally tend to weaken or become neglected. These bonds thus create and foster within-group cohesion while simultaneously weakening or destroying the cohesion of the whole group.

Historically, the forces holding societies together and the forces tearing them apart seem to reverse roles over time. Families are typically a strong force for maintaining tight relationships and thus for fostering cohesion. In the case of aristocratic and royal families with close interconnections, however, this bonding through families sowed the seeds of the dissolution of societal groups which eventually grew into the French Revolution's motto of "liberté, égalité, fraternité." The latter goal in particular, fraternity, seems to be the call of the French Revolution for a cohesive society. Interestingly, freedom and equality, especially equality before the law, have been frequently cited in Western societies as two among the lasting achievements of that historical period. In contrast, fraternity in its modern guise of social cohesion has only recently begun to gain prominence as a core good to be sustained by political action and civil society.

Another force that shaped and held societies together in the past is the nation, which came to prominence in the nineteenth century. People began to relate to others in terms of their shared nationality and felt attached to the society in which they lived because it was an environment of shared culture: shared habits and values, often underpinned by a common ethnicity, language, and religion. Like family bonds, national bonds, too, later proved to be the cause of a decline in the

sense of community or even of the breakup of societies when migration and globalization sharpened the sense of ethno-cultural differences.

Human history has also witnessed the evolution of societal and political institutions, notably democracy, the judicial system, and the welfare state. Although these institutions help societies solve and mitigate conflicts, creating social cohesion is not their core task. In fact, they might even be said to work against it: A large body of legal rights and a strong judicial system create incentives to disregard personal and social resources in solving or coping with problems. Similarly, a strong welfare state with the duty of caring for the needy may reduce the willingness of citizens to become personally involved in charitable activities, shifting the responsibility for solving societal issues solely onto our political representatives and discouraging us from making personal contributions (Van Oorschot et al. 2005). Potential tensions like this change and evolve in the course of history; thus the topic of social cohesion seems to recur in different forms and with varying intensity at different times.

Starting with Émile Durkheim, high interest in social cohesion has been usually driven by concerns about threats to, or declines in, the sense of community. Threats could in former times take the form of increasing mobility or a decline in religious values, while today they are identified as globalization, immigration, inequality, or modern communication technologies. In an attempt to respond to the growing concerns about cohesion, scholars, policy makers, and politicians seem to be increasingly engaged in actions to define and measure cohesion, as well as to possibly devise policies to improve it.

There have been numerous contemporary academic contributions on the topic of cohesion. A review study of David Schiefer, Jolanda van der Noll, Jan Delhey, and Klaus Boehnke (Bertelsmann Stiftung 2012)[1] has summarized this literature and arrived at insights which lay the theoretical foundations of the work presented in this book. This review study, first of all, points to major disagreements in the literature on how to conceptualize and operationalize social cohesion; various definitions tend to be overstretched, often mixing components of cohesion with its determinants and outcomes. Yet if one strips the concept of some contentious and peripheral dimensions, a common core surfaces, which paves the way to a systematic account on how the level of cohesion has been developing in an extended period of time. So far, such an account has been missing.

Besides academia, international organizations are active on issues related to cohesion. The OECD (2011a) regards cohesion as a valuable goal in itself, but also as a contribution to maintain long-term economic growth. Policies have been proposed with respect to fiscal and tax design, employment, social protection, civic participation, education, gender, and migration in order to enhance the level of social cohesion. The World Bank (2012a) considers social cohesion important for

[1]Based on this screening study, the two lead authors, David Schiefer and Jolanda van der Noll, have meanwhile published a journal article: Schiefer, D. & Van der Noll, J. (2016). The essentials of social cohesion: A literature review. *Social Indicators Research*, doi: 10.1007/s11205-016-1314-5.

the resilience of societies to violence, particularly in fragile states and post-conflict situations. The Council of Europe, the organization that fosters collaboration among 47 European countries, has pursued a strategy and an action plan for social cohesion in Europe since the early 2000s (Council of Europe 2011). Cohesion is also a policy goal of the European Union which is expressed in its Treaty (Article 3): "It [the European Union] shall promote economic, social and territorial cohesion, and solidarity among Member States." (European Union, 13 December 2007).

Some national governments have established programs with the aim to foster cohesion in their countries, too. One of the most noteworthy projects is the inter-departmental research network established by the Canadian government and the Canadian Policy Research Network (Jenson 1998). Great Britain (Department for Communities and Local Government 2008; Home Office Community Cohesion Unit 2003; House of Commons 2004), New Zealand (Ministry of Social Development 2004), and Australia (Australian Institute of Health and Welfare 2005) have also put the cohesion issue on the political agenda.

In contrast to these serious attempts, Germany can serve as an example how social cohesion often appears on the political agenda as a buzzword, rather than a sophisticated concept. The sustainability strategy of the German government (Bundesregierung 2002) lists social cohesion as one of its four guiding principles together with intergenerational justice, quality of life, and international responsibility. In its management plan, it stipulates the following actions to foster social cohesion: (1) prevention of poverty and social exclusion, (2) equal opportunity for all social classes to participate in economic development, (3) political, economic, and societal adaptations in response to demographic change, and (4) enabling participation in political and social life for everyone. Progress reports (Bundesregierung 2012) are compiled every four years that monitor employment (through employment rates), perspectives for families (through rates of all-day child care), equality (through the gender earnings gap), and integration (through graduation rates among immigrants). While this sounds good on paper, the goals and the monitoring approach in these progress reports interestingly do not explicitly mention social cohesion. The purpose of the social reports is to track progress towards achieving goals that are *believed* to foster cohesion, but not to measure cohesion as such, and nothing is said about what social cohesion actually is. Therefore, whether the sustainability strategy contributes to social cohesion remains an open question.

Very likely, the definitional vagueness of cohesion has helped establishing it as a keyword in Sunday speeches as well as in party manifestos and campaigns—though even as a mere buzzword, it rings a bell with the German voters. A quick snapshot of party manifestos for the 2013 national German elections suggests that the number of occurrences of the word *Zusammenhalt* (cohesion) correlates with the success of the political parties. The Christian Democratic Union (CDU) used it 16 times and received 41.5 % of the vote together with its Bavarian sister party CSU; the Social Democratic Party (SPD) used it 14 times and received 25.7 %; the Socialist Party (Die Linke) used it 3 times and received 8.6 %; the Green Party (Die Grünen) used it 5 times and received 8.4 %. Coincidentally, the parties that

failed to pass the five percent threshold for entry into the *Bundestag* (Federal Parliament) mentioned *Zusammenhalt* only once (the Liberal Party, FDP, and the Pirates) or not at all (the Euro-skeptic and right-wing populist Alternative for Germany, AfD, and the right-wing extremist National Democratic Party, NPD). Care should be taken not to read too much into the strong correlation between election results and the occurrences of the term *Zusammenhalt* in party manifestos ($r = 0.965$, $p < 0.01$), but it does demonstrate that the relevance of social cohesion today seems to be crucial for parties addressing large portions of the electorate. Confronted with a de-facto multi-cultural German society, one might even take the absence of the term *Zusammenhalt* from the manifestos of two parties on the populist and extremist right as evidence that they have not fully moved beyond the national categories that dominated nineteenth and twentieth-century thinking, whereas the other parties are aware of the need for a new definition of togetherness that goes beyond the confines of "nationality."

The recent emergence of social cohesion as a core political asset is also reflected in the latest coalition agreement between the Christian Democrats (CDU/CSU) and the Social Democrats (SPD) who, headed by Chancellor Angela Merkel, formed the German government in 2013. In this agreement, the heading *Zusammenhalt der Gesellschaft* (social cohesion) summarizes an array of goals touching on, for example, equal opportunity, culture, quality of life, consumer protection, family, tolerance, sports, media, digital life, civic engagement, religion, and integration.

When the term first began to appear in political manifestos and agendas, Bernard (1999) argued that social cohesion is a typical quasi-concept. He defined it as a mental construct proposed by politics in order to detect and define a possible consensus. In politics, quasi-concepts have the advantage that, although they enjoy the cachet of the scientific method, they are vague and adaptable enough to serve a variety of purposes. One of Bernard's conclusions is that quasi-concepts must be criticized and deconstructed. This argument can explain why the notion is used by all major political parties in Germany; it also goes some way towards explaining the absence of a common definition. The quasi-conceptual use of the term can be seen in the efforts of governments to foster and maintain social cohesion and in the arguments of opposition members or other actors in political debates who postulate that social cohesion is declining or in danger of declining—while at the same time both sides typically shy away from providing, let alone agreeing on, what cohesion actually stands for.

Some 16 years after Bernard's criticism, social cohesion has attained the status of an official policy goal in Germany and elsewhere. The need to define and measure it in a constructive way derives partly from this fact. Bernard's criticism should be taken as an incentive to define and measure cohesion transparently. In doing so one should refrain from claims of ultimate truth in the definitions of the concept, but rather accept that the definition will always be partly a normative decision which can be changed, depending on the *Zeitgeist*.

As part of a move towards evidence-based politics, social reporting activities have been mushrooming nationally and internationally since the 1990s. Mainly devoted to measuring progress, wealth, or quality of life, they rarely take issues

of social cohesion into account. The Human Development Index (UNDP 2010; UNDP 2013a, b), for example, has spent 30 years measuring human development in terms of life expectancy, educational level, and per capita income, but social cohesion is not one of its focal areas. The Social Progress Index (Porter, Stern, & Loría 2013; Porter, Stern, & Green 2014) measures social progress in three primary dimensions: basic human needs, foundations of well-being, and opportunity. Although its focus rests on non-economic measures of human progress, the quality of social relations has remained unexplored. The Legatum Prosperity Index (Legatum Institute 2012) measures prosperity in eight dimensions of material and non-material wealth, among which social cohesion appears as only a part of one of these dimensions (in the form of cumulated social capital). The OECD Better Life Index[2], in contrast, includes certain aspects of social cohesion under the headings of community and civic engagement, but cohesion is still not the main focus, since there are nine other categories that together make-up a 'better life.' In the OECD's *Society at a Glance* (OECD 2014), the final chapter is devoted to "Social Cohesion," covering five indicators: life satisfaction, tolerance, confidence in institutions, safety and crime, and helping others. However, since the start of the rubric on social cohesion in 2001, these OECD reports have offered a constantly changing set of indicators which tapped into causes or consequences of cohesion—such as work accidents, suicides, and life satisfaction—rather than cohesion per se. In a nutshell, it is fair to say that a coherent reporting system devoted to social cohesion is lacking.

The present book attempts to fill this gap and to provide systematic knowledge on cohesion. It formulates a streamlined definition and on that basis develops a comprehensive social cohesion index. The index employs a sound methodology and draws on academic and institutional data sources of very high quality. It measures and traces the development of social cohesion in a period of almost 25 years—between 1989 and 2012—internationally, among 34 European and OECD countries, and on the regional level, among the 16 federal states (*Bundesländer*) of Germany. The extensive empirical evidence provides a detailed presentation of patterns and dynamics of cohesion. Furthermore, the book delves into an exploration of cohesion's key macro-level determinants and outcomes, with an emphasis on subjective well-being.

Our research has been guided by the following research questions:

- How can social cohesion be defined and measured?
- What is the current level of social cohesion?
- Has social cohesion changed over time?
- What profiles ("regimes") of cohesion are to be found?
- What are the key conditions fostering cohesion?
- What is cohesion good for?

[2]See http://www.oecdbetterlifeindex.org.

Chapter 1 develops the theoretical framework of the Social Cohesion Radar. It opens with a brief outlook on classical pieces that are central to the concept. Building on an extensive literature review (Bertelsmann Stiftung 2012), the chapter formulates a new definition of social cohesion centered around three core aspects: social relations, connectedness, and focus on the common good. Each of these domains unfolds into three dimensions: social networks, trust in people, acceptance of diversity (social relations); identification, trust in institutions, perception of fairness (connectedness); solidarity and helpfulness, respect for social rules, civic participation (focus on the common good).

Chapter 2 presents the data sources as well as the methodological steps and principles that we used in order to measure social cohesion in 34 Western societies in four time periods between 1989 and 2012. This international benchmarking employs data from high-quality, large-scale, cross-sectional, representative, comparative surveys as well as institutional sources. The construction of the dimensions follows a reflective measurement approach, whereas that of the domains and the overall index of cohesion follows a formative index building approach (Bollen & Lennox 1991).

Chapter 3 describes the level of cohesion in 34 EU and OECD countries over almost 25 years. It appears that social cohesion is a rather stable characteristic of societies. The Scandinavian countries occupy the top positions in the rankings, closely followed by the English-speaking societies (bar the United Kingdom), and Western European countries. The Central and Eastern European countries, and particularly Southeastern Europe, are less cohesive. Still, the indices on the three cohesion domains as well as the rankings on the nine cohesion dimensions show that most countries, regardless of their overall ranking, have their own strengths.

Chapter 4 explores whether the nine dimensions of cohesion empirically form a syndrome. With the exception of the dimension identification, this is the case. Therefore, most dimensions belong to a single latent construct, which can be termed social cohesion. The chapter then progresses to identify distinct "regimes" of cohesion, based on the nine-dimensional cohesion profiles of each country.

Chapter 5 explores macro-level determinants and outcomes of social cohesion, both with respect to the overall index and with respect to each of the nine dimensions. The key findings here are that technological progress, affluence, and income equality strengthen cohesion; in turn, cohesion feeds back into socio-economic progress.

Chapter 6 analyzes in detail the relationship of social cohesion with individual values and subjective well-being. The evidence shows that conservation and self-enhancement values are negatively related to social cohesion, whereas self-transcendence and openness values exhibit a positive relationship. Furthermore, the chapter demonstrates that strong social cohesion is a valuable property, since it is conducive to people's happiness and life satisfaction. To paraphrase Wilkinson and Pickett (2010): Cohesion is happiness.

Chapter 7 constitutes a brief excursus out of the international comparison in analyzing social cohesion within the 16 federal states of Germany. It, thus, shows

that our approach to measuring social cohesion is applicable not only on the national level, but also on the regional one.

Chapter 8 summarizes the concept and the core empirical findings. It discusses the limitations of our approach and attempts to offer sustainable solutions to overcome them in future research. Last, the chapter suggests two directions for expanding the scope of the Social Cohesion Radar with the intention to gain more in-depth knowledge on the aspects of social cohesion.

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Chapter 1
Theoretical Framework of the Social Cohesion Radar

Abstract This chapter presents the theoretical foundations of the concept of social cohesion used throughout the book. It opens with a concise outlook on seminal classical pieces. Building on an extensive literature review, the chapter formulates a novel, streamlined definition of social cohesion: the quality of social cooperation and togetherness of a collective defined in geopolitical terms, expressed in the attitudes and behaviors of its members. Our concept of cohesion is centered on three core aspects, each of which unfolds into three dimensions: resilient social relations (social networks, trust in people, acceptance of diversity), a positive emotional connectedness between the community and its members (identification, trust in institutions, perception of fairness), and a pronounced focus on the common good (solidarity and helpfulness, respect for social rules, civic participation). The chapter closes with a discussion on the major deviations of our definition of cohesion from previously proposed ones and closely related concepts.

Keywords Social cohesion · Definition · Concept · Literature review

This chapter sets the theoretical framework of Bertelsmann Stiftung's Social Cohesion Radar. It opens with a brief outlook on the roots of social cohesion in (modern) classics and proceeds to present-day conceptions. On these grounds, the chapter derives a new, streamlined definition of social cohesion.

1.1 Roots in (Modern) Classics

The roots of the concept of social cohesion can be traced in the works of historians, philosophers, sociologists, and economists. They were all concerned with the idea of holding society together "as one" and fostering social cooperation. This is very much in line with the present-day understanding of cohesion; it literally means "sticking together" (cf. Chan et al. 2006). The study of social cohesion thus amounts to the quest for the forces that make social atoms form a society

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characterized by a "we-feeling" and solidarity. Below we take a brief look into the most prominent works on this issue, without any claims of being exhaustive.

One of the first works relating to the concept of social cohesion is Ibn Khaldûn's (2004/1377) *Muqaddimah*. The Arab historian Khaldûn, considered by some to be the father of sociology, refers to the notion of *asabiyyah* which is typically translated as social cohesion. With this term he describes the solidarity among members of small groups (tribes) that promotes broader social integration. As civilizations advance, the existing *asabiyyah* would decline, opening space for another, new form of *asabiyyah*. Khaldûn saw in this cycle reasons for the rise and fall of civilizations.

A rather extreme approach to keeping society together is Hobbes' (1969/1651) Leviathan-like monster of the integrating state. Hobbes advocated a social contract and rule by an absolute sovereign as the most effective way to avoid civil unrest or a war of all against all. The complete opposite to the Leviathan is Smith's (1937/1776) laissez-faire model of societal integration through economic exchange: The invisible hand of the market is prophesied to arrange social interactions such that the individual pursuit of own interest results in benefits for the whole society. Nobel prize winner Milton Friedman described Adam Smith's invisible hand as the "possibility of cooperation without coercion" (Read 1999).

Neither convinced by the idea of a social contract, nor by that of the invisible hand, Durkheim (1977/1893) described the maintenance of social order in societies on the basis of two very different forms of solidarity, mechanical and organic. Mechanical solidarity is characteristic of traditional and small-scale societies, where the cohesion and integration of individuals stems from their homogeneity—individuals are connected by similar work, education, religious background, and lifestyle. Modern, industrial, capitalist societies, in contrast, are kept together by organic solidarity. It is a form of social cohesion based on the interdependence of individuals as a result of the division of labor. Durkheim argues that the advancement of the division of labor could also result in disorder and anomie, which he considers pathological aspects of modernity, but once the advanced state has been reached, societies become much stronger, and the social bonds more flexible. Unlike Durkheim, Marx (1965/1867) expected that the development of society would not stop at this point; Marx foresaw a completely new—utopian—type of society, based on collective ownership, emerging as a result of the inherent class conflict in the capitalist order.

Tönnies (1887) proposed a basic distinction between *Gemeinschaft* (community) and *Gesellschaft* (society) to describe the type of social ties among people. In a *Gemeinschaft* social ties belong to personal social interactions, and the roles, values, and beliefs that stem from these interactions. A *Gesellschaft* exhibits indirect interactions, impersonal roles, formal values, and corresponding beliefs. In response to Tönnies, Weber (1978/1922) wrote of *Vergemeinschaftung* (community formation) and *Vergesellschaftung* (society formation). Weber saw community rooted in

affectual or traditional feelings, and society rooted in rational agreements by mutual consent, e.g. a commercial contract. British Marxist historian Hobsbawm (2007) argues that the ongoing globalization transforms the world into an increasingly remote type of *Gesellschaft*. In turn, identity politics respond to this transformation with an artificial reforging of group bonds and identities in search for a fictitious remaking of a *Gemeinschaft.*

Drawing heavily on Durkheim, Parsons (1971) saw a necessity for value-normative integration in modern societies. According to him, a society can be integrated in substantive and functional terms only if social interactions are centered around a set of ultimate values, which are shared visions on the desirable state of affairs. Therefore, common values internalized during the socialization process are key for holding the societal community together—the integration function which this subsystem plays to maintain the entire society as a social system.

Lockwood (1964) spoke of social integration and system integration as two different perspectives in an attempt to take a holistic view on the same social phenomenon. The former refers to the principles that underlie the interactions between individuals in a society, whereas the latter describes the relationships between the institutions in the system. Lockwood does not equate integration to harmony or togetherness; it can be charged with both cooperation and conflict. His call to accommodate the dualism between agency and structure was later on picked up by Habermas (1987) and Giddens (1984).

In our tour d'horizon, the more recent social capital literature is important, too. Pierre Bourdieu describes social capital as a crucial resource, along with economic capital and cultural capital. In his view (Bourdieu 1986, p. 249), social capital is the "aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition." The definition of Coleman (1988) takes an explicitly functional perspective; social capital is "a variety of entities with two elements in common: they all consist of some aspect of social structure, and they facilitate certain actions of actors within the structure." Essentially, social capital facilitates individual or collective action as generated by networks of relationships, reciprocity, trust, and social norms. The famous book *Bowling Alone* by Putnam (2000) finally introduced social capital to the public discourse. Putnam defines the concept as "the collective value of all 'social networks' and the inclinations that arise from these networks to do things for each other." He also draws a line between bridging social capital (which emerges when people interact with others who are not like them) and bonding social capital (which emerges when people interact with others who are like them). According to Putnam, bridging social capital is necessary for peaceful coexistence in diverse societies and social capital, in general, increases a society's problem-solving capacity.

1.2 Previous Research on Cohesion

Although it is centered around the centuries-old questions of what keeps society together and what motivates individuals to cooperate, social cohesion as an applied concept in empirical research did not gain prominence until the 1990s, when it, so-to-speak, took off. Currently cohesion is a "hot topic" in academia, public policy, and the mass media. The reasons for this can be found in the growing concerns that megatrends such as the increasing ethno-cultural diversity (immigration), a widening gap between rich and poor, technological progress, welfare state retrenchments, and the recent financial crisis weaken the social fabric of present-day societies.

The review study by David Schiefer, Jolanda van der Noll, Jan Delhey, and Klaus Boehnke (Bertelsmann Stiftung 2012) screened the relevant academic and institutional sources on the theory behind the concept of cohesion. Figure 1.1 summarizes their insights and conclusions. It points, first of all, to a consensus among scholars that cohesion is a characteristic of society. While individuals' values and behavior do affect and are affected by social cohesion, cohesion itself is not a characteristic of individual members of a society. Scholars also agree that

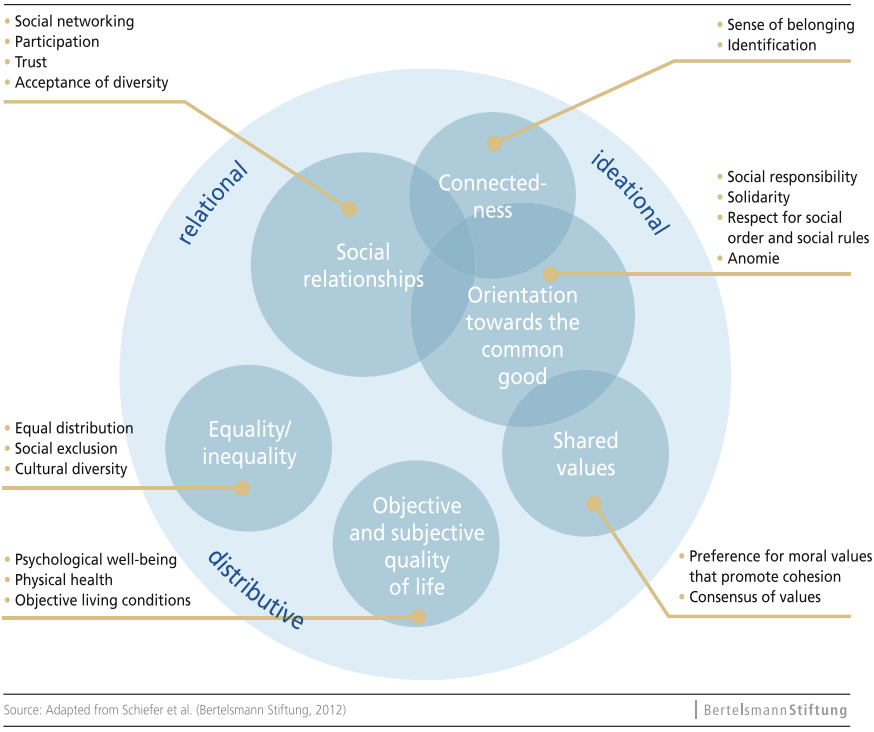

Fig. 1.1 Suggested aspects and components of social cohesion in the literature

cohesion is a graduated phenomenon: There are different degrees of cohesion and societies can be more or less cohesive. Next, the level of cohesion is reflected in the attitudes and behaviors of individuals and groups in a given society. Its manifestations thus encompass the micro, meso, and macro levels of human interaction. Finally, there is consensus that social cohesion is a multidimensional construct.

However, what cohesion essentially is and, more specifically, which components should be considered when assessing the strength of cohesion in a given society seems to be the major point of disagreement in the literature. We cite some of the definitions in order to exemplify this debate. Maxwell (1996), for example, understands social cohesion as "building shared values and communities of interpretation, reducing disparities in wealth and income, and generally enabling people to have a sense that they are engaged in a common enterprise, facing shared challenges, and that they are members of the same community." According to McCracken (1998), social cohesion is "a characteristic of a society dealing with the relations between societal units such as individuals, groups, associations as well as territorial units." Friedkin (2004, p. 410) believes that "groups are cohesive when group-level conditions are producing positive membership attitudes and behaviors and when group members' interpersonal interactions are operating to maintain these group-level conditions." According to Delhey (2004, p. 17), social cohesion "can be measured by how positive mutual perceptions and attitudes are, how much sense of community and we-feeling there is, and by the extent such we-feeling translates into supportive action." Chan et al. (2006, p. 290) define social cohesion as "a state of affairs concerning both the vertical and horizontal interactions of society as characterized by a set of attitudes and norms that includes trust, a sense of belonging and the willingness to participate and help, as well as their behavioral manifestations." The OECD (2011), finally, defines a cohesive society as one that "works towards the well-being of all its members, minimizing disparities and avoiding marginalization"; consequently, the OECD suggests "fostering cohesion by building networks of relationships, trust and identity between different groups, fighting discrimination, exclusion and excessive inequalities, and enabling upward social mobility."[1]

In the bewildering diversity of definitions the careful reader may have noticed that some aspects appear in many definitions; there is something like a core meaning of cohesion. From the various definitions that have been proposed, Schiefer et al. (Bertelsmann Stiftung 2012) identified six 'themes' of social cohesion, depicted in the circles of Fig. 1.1. These are social relationships, connectedness, orientation towards the common good, shared values, (objective and subjective) quality of life, and equality. The overlap of the circles in the figure indicates the centrality of the respective themes to the concept of cohesion, as judged on the basis of how often they have been proposed in previous studies.

Applying this rule and carefully discussing each of the "bubbles" (some arguments are given below), Schiefer and colleagues conclude that social relationships,

[1]See http://www.oecd.org/dev/pgd/internationalconferenceonsocialcohesionanddevelopment.htm.

connectedness, and orientation towards the common good constitute the core aspects of social cohesion. The authors then formulate a corresponding definition, based on these three domains and their associated dimensions. They suggest that only such a lean approach to cohesion can sustain a useful system for monitoring social cohesion and provide the opportunity for a meaningful exploration of causes and effects of cohesion. We adopt this theoretical framework with slight modifications.

1.3 Definition of Social Cohesion

Based on the insights of the screening study of Schiefer et al. (Bertelsmann Stiftung 2012) and the suggestions of the participants in an expert workshop "Measuring Social Cohesion: A New System of Indicators", held in Gütersloh, Germany, on January 20, 2013, we propose the following definition:

Social cohesion is the quality of social cooperation and togetherness of a collective, defined in geopolitical terms, that is expressed in the attitudes and behaviors of its members. A cohesive society is characterized by resilient social relations, a positive emotional connectedness between its members and the community, and a pronounced focus on the common good.

Social relations, in this context, are understood as the horizontal network that spans individuals and groups within a society. Connectedness refers to the positive ties among individuals and their social entity of belonging and that entity's key institutions, respectively. A focus on the common good, finally, is reflected in the actions and attitudes of the members of society that demonstrate solidarity, responsibility for others and engagement for the community as a whole. These are the three core aspects (in the following called domains) of cohesion.

Each of these three domains, in turn, unfolds into three dimensions: Social relations are measured by the strength of social networks, the degree to which people trust each other, and the extent to which diversity is accepted. Connectedness is measured in terms of the strength of people's identification with their social entity (country, province, municipality, etc.), the degree to which they trust major institutions, and their perception of fairness in society. A focus on the common good manifests itself in the level of solidarity and helpfulness, people's willingness to abide by social rules, and civic participation. Table 1.1 lists and visualizes our cohesion concept, accompanied by a guideline for selecting indicators (cf. Chap. 2).

We claim that this definition reflects a—for a long time latent—consensus among numerous scholars and think tanks on the essential dimensions of social cohesion. It underscores the relational, ideational, and behavioral nature of the construct. *Relational*, in this context, refers to the social ties between the members of society and between the various groups that make up that society, whereas *ideational* concerns cognitive and affective aspects, such as a feeling of belonging. Finally, *behavioral* aspects refer to specific actions of individuals and groups that

Table 1.1 Domains and dimensions of social cohesion

Domain	Dimension	Guideline
 **1. Social relations** create cohesion through a network of horizontal relationships between individuals and societal groups of all kinds, which is characterized by trust and allows for diversity.	1.1 Social networks	People have strong, resilient social networks.
	1.2 Trust in people	People have a high level of trust in others.
	1.3 Acceptance of diversity	People accept individuals with other values and lifestyles as equal members of society.
 **2. Connectedness** promotes cohesion through positive identifi cation with the country, a high level of confi dence in its institutions and a perception that social conditions are fair.	2.1 Identification	People feel strongly connected to their country and identify with it.
	2.2 Trust in institutions	People have a high level of confi dence in social and political institutions.
	2.3 Perception of fairness	People believe that society's goods are fairly distributed and that they are being treated fairly.
 **3. Focus on the common good** promotes cohesion through actions and attitudes that help the weak, are in keeping with society's rules and allow for a collaborative approach to the organization of society.	3.1 Solidarity and helpfulness	People feel responsibility for others and are willing to help them.
	3.2 Respect for social rules	People abide by the fundamental rules of society.
	3.3 Civic participation	People participate in society and political life and enter into public discussions.

either strengthen or weaken their horizontal ties, their connectedness to societal institutions, or the common good.

Compared to other academically well-received approaches to cohesion, our concept emphasizes one important aspect, the focus on to the common good, which, as we argue, is neither entirely "horizontal" nor entirely "vertical;" it rather connects or complements the two. Chan et al. (2006) distinguish among four main aspects of cohesion in a two-dimensional space, one axis distinguishing horizontal and vertical components, and the other objective and subjective components. In their schema, vertical dimensions refer to links between the state and its citizens, whereas horizontal dimensions describe relations among citizens. Subjective manifestations of cohesion refer to people's states of mind, whereas the objective ones refer to (self-reported) behavior. In a similar fashion, Dickes and Valentova (2013) draw a first line between the political and the socio-cultural domain, which resembles the distinction of Chan and colleagues between vertical and horizontal dimensions. Dickes and Valentona then draw a second line between formal/attitudinal manifestations of cohesion and substantial/behavioral relations. Both schemas result in a two-by-two matrix. We refrain from applying a two-by-two conception, mainly in order to avoid an unwarranted separation of attitudes and behavior. The content-driven separation among our three domains of cohesion seems more intuitive than a formal separation along the horizontal/vertical and the socio-cultural/political. However, the nine dimensions of our conceptualization can still be arranged in such a way as to fill the two-by-two matrix shown in Table 1.2. This exercise demonstrates the overlap that does exist between our concept and previous ones.

Table 1.2 Dimensions of the Social Cohesion Radar in a 2-by-2 conceptualization

	Horizontal (socio-culture)	Vertical (political)
Subjective (formal/attitudinal)	• Trust in people (1.2) • Acceptance of diversity (1.3)	• Identification (2.1) • Trust in institutions (2.2) • Perception of fairness (2.3)
Objective (substantial/behavioral)	• Social networks (1.1) • Solidarity and helpfulness (3.1)	• Respect for social rules (3.2) • Civic participation (3.3)

Number of the mentioned dimension in brackets.

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1.4 Disambiguation

Our definition of cohesion deliberately excludes material wealth, social inequality, values, and well-being, despite the fact that these themes may play an important role in previous definitions. This is intended in order to simplify the concept. In a recent contribution, Farrell (2015) emphasizes the open-endedness of the social cohesion concept and argues against narrow conceptualizations of it, particularly such that exclude aspects referring to possible tensions among the members of society. By proposing a streamlined and focused concept of cohesion instead, we are able to distinguish more precisely between its conditions, components, and consequences. Only this way can we attend to the most pressing questions for social policy: What determines a certain level of cohesion and what consequences does cohesion have for society and its members? Chapters 5 and 6 offer insights into these issues. More so, with our narrow definition we are able to support Farrell's understanding of social cohesion as a phenomenon that guarantees the well-being of all.

"Streamlining" was not the only reason why we excluded material wealth, social inequality, values, and well-being. There are other substantive considerations behind our decision. We begin by distinguishing social cohesion from individual well-being (see Fig. 1.2). Kroll and Delhey (2013) discuss the measurement of societal well-being in light of the pros and cons for various types of relevant indicators. They distinguish among indicators in terms of two dimensions: level (societal/individual) and type (objective/subjective) of indicators.

While generally acknowledging that all four quadrants provide valuable information for policy making, Kroll and Delhey (2013) conclude that the measures of societal well-being are less developed and meet least scholarly consensus.

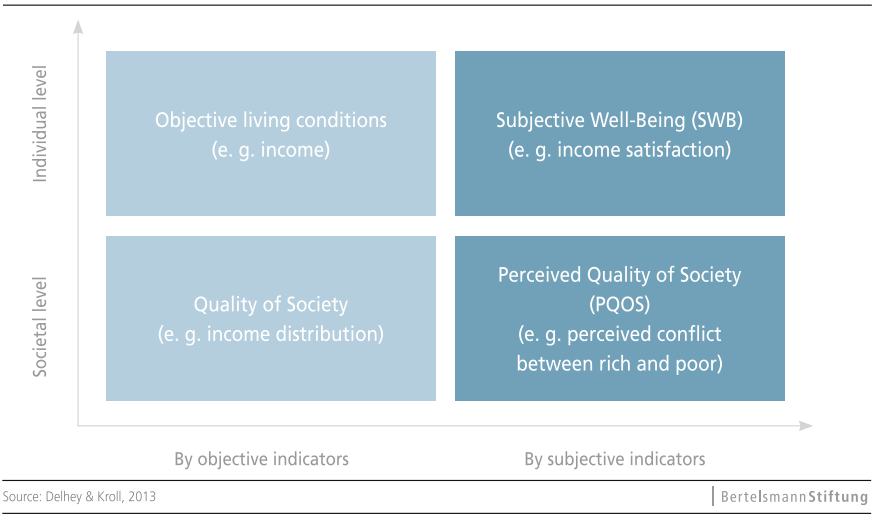

Fig. 1.2 Social cohesion as a concept of societal well-being

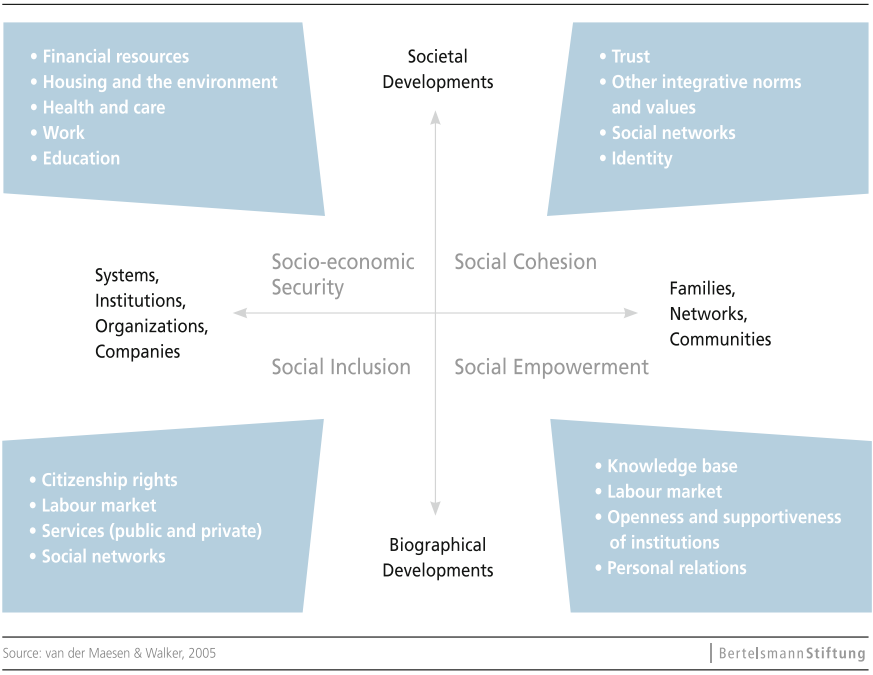

Fig. 1.3 Social quality model

Bertelsmann Stiftung's Social Cohesion Radar is an attempt to improve the reporting of societal well-being as an antidote to the individualistic turn in quality-of-life research (cf. Rapley 2003). Whereas social indicators were originally used to measure conditions of nation states (the state of the state), current quality of life research is increasingly concerned with individual well-being, often neglecting collective properties (cf. Legatum Institute 2014). Cohesion represents such a collective property.

Yet, social cohesion does not address societal quality per se, but only a specific aspect of it—the degree of togetherness. This becomes clear when looking at a broader welfare concept such as social quality. The latter encompasses four components of good society, one of which is cohesion (Van der Maesen & Walker 2005). The backbone of the social quality approach is formed by two basic distinctions: the distinction between formal arrangements of societal sub-systems, institutions, and organizations, and informal arrangements of social groups and life-worlds; and the distinction between biographical processes at the micro level of society and societal processes at the macro level. This results in a two-by-two matrix of social quality, or rather qualities in plural (see Fig. 1.3). That approach clearly distinguishes social cohesion from the extent and distribution of socio-economic resources (socio-economic security), the access of individuals to key systemic institutions such as education and the labor market (social inclusion), and the extent of individual capabilities (social empowerment). Thus, in line with our approach, the

social quality model positions social cohesion in the sphere of societal rather than individual development.

Regarding the theme of equality, it is important to note that our definition includes the *perception* of procedural and distributive fairness, rather than objectively measurable justice or inequality. In our concept, a widespread *perception* of unfairness serves as evidence of weak cohesion, not objective inequality as such.

Another decision we need to elaborate on is not taking into account a society's cultural, ethnic, or religious diversity. We contest that diversity as such is a component of cohesion. Rather, social cohesion is reflected in a constructive approach to diversity. In modern societies, social cohesion is only possible if people are able to deal appropriately with diversity—this is why we include acceptance of diversity as one crucial dimension. Of course this ability may be affected by the degree of cultural, ethnic, or religious diversity in society, but diversity itself is not an indicator of cohesion, neither a positive nor a negative one.

Our concept diverges from previous work (e.g. Janmaat 2011) in yet another respect. It does not include value homogeneity or shared values. Beilmann and Lilleoja (2015) offer partial empirical support for our stance. They show that the association between value similarity (congruence of individual value preferences with the prevailing values in society) and social trust (a main component of social cohesion) is not uniform across a sample of 29 European countries, including Russia and Israel. In Scandinavia value homogeneity is just weakly positively related to trust in people; in Western Europe the association is positive but substantively nil, whereas in Eastern and Southern Europe it is negative and again substantively non-existent. We exclude shared values from our concept of cohesion firstly because it is unclear which values people would have to share to guarantee cohesion and because we are not convinced that cohesion in modern societies requires homogeneity of values at all. Moreover, excluding values from the concept allows us to investigate which values affect (and are affected by) social cohesion. Chapter 6 deals with this question.

Generally, we consider models of cohesion based on homogeneity of either the population or values outdated as they fail to account for the reality of diverse and complex societies. To paraphrase one of the founders of modern sociology, Émile Durkheim: Modern societies are based not on "mechanical solidarity" rooted in similarity, but on "organic solidarity" rooted in diversity and mutual interdependence. Our definition thus claims that cohesion cannot exist only in subgroups of a society, e.g., among the ethnic majority. If a consensus were to be reached, for example, that the native-born population should be given preference over immigrants regarding employment, this would suggest a high level of cohesion, but only of the sort that excludes immigrants. Numerous examples, past and present, show that this type of exclusion can promote short-term cohesion among the majority and is sometimes used specifically for that purpose. However, such examples—and here we need to only remember the Nazi era—show that this can have devastating consequences, particularly for the affected minorities. Thus, consensus around certain values may *not* foster cohesion in the entire social entity.

Finally, as a systemic property of society (Chan et al. 2006; Klein 2013), social cohesion is a broader concept than social capital, the latter constituting essentially an individual-level construct (Halpern 2005; Lin 2001; Putnam 2000). While social capital captures the individual's access to resources through social networks, social cohesion is concerned with a social entity as a whole. The two phenomena are, of course, to a certain degree linked. Our concept of cohesion relates to social capital as far as it includes the bridging type of social capital. It emerges from interactions among people of diverse social backgrounds and is necessary for their peaceful coexistence, particularly in diverse societies (Putnam 2000). We therefore purposefully exclude the role of the family from the conceptualization and operationalization of social cohesion. The family clearly belongs to the private sphere of an individual's life and produces bonding social capital which stands for homogeneity and exclusion.

All in all, we strive to prevent our definition from permitting any kind of exclusion in society. It is our aim to conceptualize an inclusive form of social cohesion that not only accepts a multitude of lifestyles and identities, but views them as a strength. After having outlined our approach to cohesion, we now turn to the issue of how to measure it.

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Chapter 2
Methodology of the Social Cohesion Radar

Abstract The multifaceted conceptual framework of the Social Cohesion Radar necessitates an elaborated methodological approach. This chapter presents the data sources and methodology we have used to measure the level and trend of social cohesion across 34 European Union and OECD member states in four time periods: Wave 1 (1989–1995), Wave 2 (1996–2003), Wave 3 (2004–2008), and Wave 4 (2009–2012). The Social Cohesion Radar draws exclusively on large-scale internationally comparative secondary data from high-quality academic and institutional sources. The operationalization of the nine dimensions follows a reflective measurement approach in expressing each dimension as a latent construct manifested in interrelated indicators that are interchangeable across time. The resulting country scores on each dimension are thus factor scores which preclude absolute comparisons and allow only relative statements regarding the degree of cohesion. On the other hand, the computation of the three domain indices and the overall index of cohesion follows the formative measurement approach; each index is the arithmetic mean of the respective constituent dimensions. In addition, the chapter introduces the uniform color-coding scheme that has been used throughout the book to ease readers in interpreting the results.

Keywords Social cohesion index · Social indicators · Reflective measurement · Formative measurement · Secondary data analysis

Unlike directly observable characteristics such as, for example, body temperature, cohesion is not an objective condition that can be easily measured. Accordingly, the measurement instrument developed for this study is complex. A number of steps are required to determine even an approximate level of cohesion in a society, expressed as a score on an overall index.

This chapter outlines the analytic pathway: the selection of countries and time periods, the data sources, the choice of indicators, and the fundamental principles behind our calculation method. A data set with the indicators as well as the calculated dimension scores, domain scores, and overall index of social cohesion are

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available for download on www.social-cohesion.net. The website also gives access to a detailed methodological report on every step in calculating the dimension values and the overall index of cohesion.

2.1 Countries and Time Periods

Our study looks at the level and trend of social cohesion in 34 countries. They include the 27 members of the European Union (EU-27) before the accession of Croatia as well as seven other Western members of the Organization for Economic Cooperation and Development (OECD): Australia, Canada, Israel, New Zealand, Norway, Switzerland, and the United States.

These countries have been selected for conceptual and pragmatic reasons. First, most of them are at a similar stage in their social, political and economic development—which is crucial for a meaningful comparison. Second, sufficient data are available for these countries—which is an unavoidable argument, given the secondary data analytic design of Bertelsmann Stiftung's Social Cohesion Radar. Table 2.1 provides an overview of the countries in the international comparison.

We measure social cohesion over a period of almost 25 years, from 1989 to 2012. This has been a time of considerable global upheaval, including the collapse of the 'real socialist' countries and the expansion of the EU. People's daily lives have been revolutionized by new communication technologies and the transition to a knowledge society (Castells 1998). It has been a period of massive immigration—in larger numbers than many Western countries had ever experienced before—and reforms of the welfare state. Today, Western societies are more globally connected and under greater pressure to change than they were in the "golden age" of the welfare states, which ended in the 1980s.

Since the fabric of society is unlikely to change from one day to the next, even in turbulent times, it is more logical to focus on groups of years. Guided by conceptual as well as pragmatic considerations, we cover four time periods (Table 2.2). They have been defined in a historically appropriate way, but also with respect to the availability of data.

The first period starts with the fall of the Berlin Wall and continues through the terms of office of the first democratically elected governments in the countries of the former Eastern Bloc. The second encompasses the years in which intense preparations were underway to expand the European Union—primarily by admitting most of the post-socialist countries of Central and Eastern Europe. The third period begins with the year of the major expansion of the EU toward the East and ends in 2008, when the global economic and financial crisis began. The fourth period begins in the crisis year 2009 and ends in 2012, the last year for which relevant data were available at the time of preparing the index. Assigning the two crisis years 2008 and 2009 to separate periods is a pragmatic decision; insufficient data are available for the period 2010–2012, but this problem can be alleviated by including the year 2009 in the final period of our research.

Table 2.1 Studied countries

EU and OECD		
Belgium (BE)	United Kingdom (GB)	Portugal (PT)
Denmark (DK)	Ireland (IE)	Sweden (SE)
Germany (DE)	Italy (IT)	Spain (ES)
Estoria (EE)	Luxembourg (LU)	Slovakia (SK)
Finland (FI)	Netherlands (NL)	Slovenia (SL)
France (FR)	Austria (AT)	Czech Republic (CZ)
Greece (GR)	Poland (PL)	Hungary (HU)
EU alone		
Bulgaria (BG)	Lithuania (LT)	Romania (RO)
Latvia (LV)	Malta (MT)	Cyprus (CY)
OECD alone		
Australia (AU)	New Zealand (NZ)	United States (US)
Israel (IL)	Norway (NO)	
Canada (CA)	Switzerland (CH)	

BertelsmannStiftung

Table 2.2 The four waves of the Social Cohesion Radar

1.	2.	3.	4.
1989 to 1995	1996 to 2003	2004 to 2008	2009 to 2012

BertelsmannStiftung

2.2 Secondary Data Sources

Bertelsmann Stiftung's Social Cohesion Radar is exclusively based on secondary data analysis. This approach re-uses data that have already been gathered by either the same or other researchers in an attempt to address research questions that can be very similar to or very different from those for which the data were originally collected (Smith 2008).

This kind of "data recycling" strategy is a double-edged sword. On the one hand, secondary data analysis enables us to compile the cohesion index from readily available tried and tested indicators. The project employs representative large-scale international comparative surveys, expert ratings, and institutional data. The variety of sources provides an essential balance between subjective and objective assessments of the facets of social cohesion. Given the project's aim to not only measure the current level of social cohesion, but to also follow its evolution over time, secondary data analysis seems the best suited approach. Collection of own, primary, data at the present moment with the aim to measure the level of cohesion in the past would merely rely on retrospective accounts of the kind "What was it like 20 years ago?". Such questions tend to reveal less about the past than about the present perspective on the past.

The use of secondary data indisputably presents certain challenges. The first one is that secondary data are typically obtained from research projects with different purposes. Consequently, they do not always include indicators that reflect the same conceptual approach and, thus, do not measure precisely what we intend to measure. Two other challenges are particularly evident when a study like ours covers a substantial period of time. Data can often only be drawn from different sources and are thus comparable only under certain conditions. There are also gaps in the data for certain countries if—for whatever reason—specific studies were not conducted at the appropriate time.

Thanks to recent advances in the quantitative social research methods we are able to deal effectively with these challenges. Statistical methods such as factor analysis make it possible to capture only that part of the variance of an indicator that is relevant for measuring the dimension in question. Reflective measurement models, which are based on factor analysis, enable us to handle the issue with different indicators for the dimensions across time. Algorithms such as full-information maximum likelihood can be used to handle missing data based on the available complete data. Contemporary statistical programs—in our case generally the M*plus* software (Muthén and Muthén 1998–2011)—provide us with the necessary estimation techniques. We outline the methods in a step-by-step guide to the construction of the overall index of social cohesion; a detailed description of the relevant challenges and their solutions is provided in a separate methods report (www.social-cohesion.net).

Below is a list of the data sources used for the construction of the Social Cohesion Radar along with short descriptions.

2.2.1 Survey Data

1. **World Values Survey (WVS or WEVS)**
   The World Values Survey is conducted by an international network of social scientists. It looks at the values, attitudes, and beliefs of individuals, and their effects on the economic, social, and political aspects of life. The World Values

Survey is an offshoot of the European Values Study (EVS, see below). Between 1981 and 2007, the WVS conducted five surveys of representative samples of the population of more than 90 countries, in cooperation with the EVS (WVS 2009).

2. **European Values Study (EVS or WEVS)**
   The European Values Study is a research initiative of the foundation of the same name, which focuses on virtually the same issues as the World Values Survey does (see above). Since 1981, the study has been conducted at nine-year intervals in a number of European countries; new countries have been added over time. The fourth wave, in 2008, included 48 countries and regions. This study, too, surveyed representative samples of the population (EVS 2011). Because survey items in the WVS and the EVS were so similar, we were able to use the two sources in combined form (WEVS).
3. **Gallup World Poll (GWP)**
   The Gallup World Poll is prepared and administered by the Gallup organization, one of the world's leading market and opinion research institutes. The GWP has been conducted each year since 2005, in some countries on a quarterly basis. It surveys representative samples of the population in more than 150 countries on various political, economic and social issues. Data from the Gallup World Poll are also an essential component of the Social Progress Report, the Legatum Prosperity Index, the OECD Better Life Dimensions and the OECD Social Indicators (GWP 2013).
4. **European Social Survey (ESS)**
   The European Social Survey, an academic project, seeks to identify long-term changes in the attitudes and behaviors of people in Europe by surveying representative samples of the population of 32 countries in Europe and beyond. It was launched in 2001 by the European Science Foundation and has been implemented every 2 years since then. It records Europeans' self-descriptions and gathers data on their perceptions and attitudes, focusing on a variety of topics of importance to Europe today. Among them are immigration, trust, political orientation, values, subjective well-being, and health (ESS 2012a, b, c, d, e).
5. **European Quality of Life Survey (EQLS)**
   Eurofound's European Quality of Life Survey examines various aspects of life, such as income, education, family, health, life satisfaction, and perceived quality of society. It was first conducted in 2003, and included 28 countries at that time. Additional surveys followed in 2007 and 2011, once again administered to representative population samples (EQLS 2006, 2009, 2013).
6. **International Social Survey Programme (ISSP)**
   The International Social Survey Program is a collaborative effort by various institutions that conduct surveys for the purpose of social science research. The ISSP was formed through cooperation between what was formerly the German Center for Survey Research and Methodology (ZUMA) in Mannheim and the National Opinion Research Center of the University of Chicago. It is an annual program that adds an international and intercultural dimension (module) to national surveys in 48 countries. Particularly useful for our purposes is the

"Social Inequality" module, which was included in 1992, 1999 and 2009 (ISSP 1994, 2002, 2012).

7. **International Social Justice Project (ISJP)**
   The International Social Justice Project is an international research initiative focusing on social, economic and political aspects of justice. Representative population samples were first drawn in 1991 from 12 countries; that number dropped to six in 1996 and declined later on. Due to its limited coverage, we use the ISJP to supplement the ISSP (ISJP 2002).
8. **Eurobarometer (EB)**
   The Eurobarometer was launched in 1973 by the European Commission and has been conducted every six months since that time. Representative samples of the population are drawn in the EU member states. The survey gathers data on social and political attitudes that are of crucial importance for the European Union's strategies and courses of action. Only a few of its questions relate to cohesion in units smaller than the EU itself, and those are asked only on an irregular basis. Nevertheless, the Eurobarometer is particularly useful for measuring Dimension 2.1, Identification (EB 2012a, b, c, d, e, f, g, h).

2.2.2 *Expert Ratings*

9. **Shadow economy in OECD countries (S&B)**
   A study conducted by Schneider and Buehn (2012) sheds light on the role of the informal economy in the OECD countries. Since national economic data do not include the informal economy, indicators relating to tax burdens, tax compliance, unemployment and entrepreneurial freedom are used instead. Data are available from 1995 to 2010 for a wide range of countries.
10. **Index of democracy (VAN)**
    Vanhanen (2011) has compiled a unique data base on the development of democracies, made up of annual data from 1810 to 2010. We use the "political participation" indicator, which measures participation in elections.

2.2.3 *Institutional Data*

11. **International Crime Victim Survey (ICVS)**
    The International Crime Victims Survey was implemented for the first time in 1989, and its purpose was to assess aspects of crime and safety by surveying representative samples of the population. Five waves have been completed in Europe. The survey gathers data on perceptions and attitudes about criminality and justice (ICVS 2010; Van Kesteren 2007).

12. **International Country Risk Guide (ICRG)**
    The International Country Risk Guide was launched in 1980 by the editors of International Reports; today it is compiled by the Political Risk Services Group. Its purpose is to inform business people of investment risks in selected countries. The survey has been expanded several times to include questions about social and political risks, such as corruption and ethnic and religious tensions (ICRG 2013).

2.3 Method: A Step-by-Step Guide

The choice of methods to produce the overall index of social cohesion, a synthetic composite measure, has been aligned to the quality requirements spelt out by British economist Anthony Atkinson (2005). To guide social policy, according to Atkinson, a composite index of a social phenomenon should: (a) identify the essence of the problem and have a clear and accepted normative interpretation; (b) be robust and statistically validated; (c) be measurable across countries and comparable as far as practicable; (d) be timely and susceptible to revision; and (e) be responsive to effective policy interventions but not subject to manipulation.

Figure 2.1 constitutes a roadmap to the construction of the overall index of social cohesion. Available data sources were screened to select a wide choice of indicators for each of the nine dimensions of cohesion. Data on survey items were treated for missing values, recoded where necessary, and aggregated to the country level via their arithmetic mean. Data from the same source for multiple years within each of the four time periods were averaged to a single score per time period. Based on exploratory factor analyses we selected the final—narrow—choice of indicators for the measurement of the nine dimensions in each time period. The corresponding reflective measurement models for each dimension yielded dimension scores (factor scores) for the 34 countries in each wave of cohesion. Missing values on the dimensions were then estimated and the newly extracted dimension scores standardized. These scores were then entered into formative indices of overall social cohesion and for each of its three domains.

2.3.1 Initial Selection of Indicators

It should be noted that a study on social cohesion cannot be a value-free endeavor. Our selection of indicators is not value-neutral either, while at the same time being based on guidelines developed by psychologists and social scientists to ensure high-quality measurement. Conducting such a study, in itself, suggests that social cohesion is a valuable property of a collectivity of people. Our definition of cohesion, along with its various domains and dimensions, rests on certain value

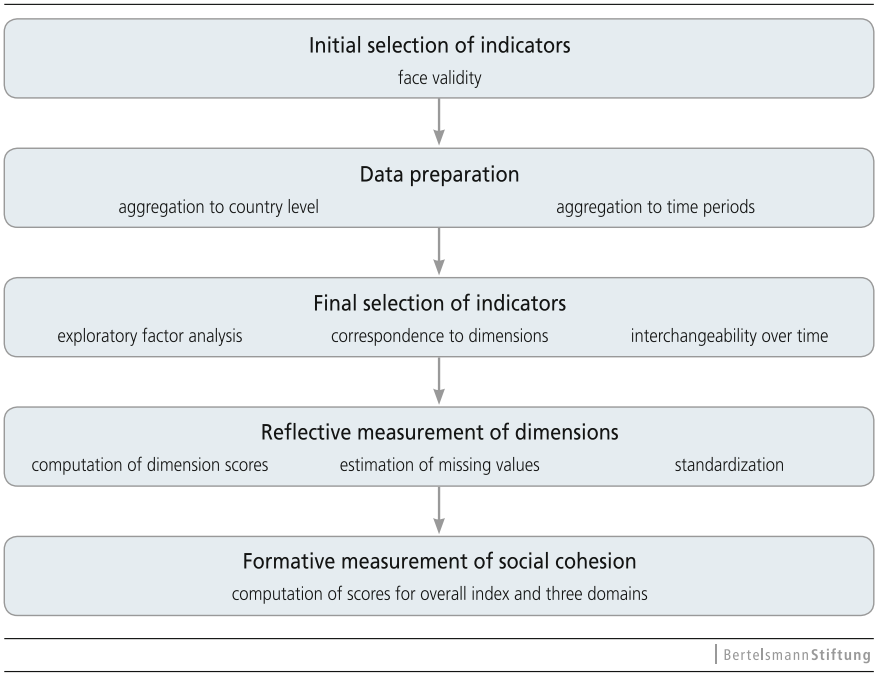

Fig. 2.1 Roadmap to an overall index of cohesion

judgments, not on a completely neutral summary of the existing academic literature (which, for its part, is not value-neutral either). For example, the idea that social cohesion requires acceptance of diversity is a value judgment. At any rate, a value judgment is always involved in the initial choice of indicators whose measurement quality is to be reviewed. While the subsequent quantitative and statistical assessment of those indicators is intended to demonstrate their suitability, it does not produce value-neutral measures.

We set off with an initial—wide-choice—selection of indicators, which was guided by the following criteria. First, the indicators should stem from sources that cover most of the EU-27 countries and other highly-developed Western democracies: Australia, Canada, Israel, New Zealand, Norway, Switzerland, and the United States. Second, the data sources should comply with international standards for cross-country comparability and representativity of the respective country populations in case of public opinion surveys. We therefore took into consideration internationally established data sources that have a clear policy on cross-country comparability and include most of the countries in focus (for details see Table A.1 of the Appendix).

Third, the indicators should correspond with the guidelines for the dimensions of social cohesion as formulated in Table 1.1. This criterion refers to the face validity of indicators. A measure is considered valid at face, if there is consensus among the

involved researchers that the operationalization of the measured phenomenon matches its conceptualization (Neuman 2003). Typically, face validity is seen as a minimal criterion of research measures (Kidder 1982). Following the guidelines for the nine dimensions, we collected a wide set of indicators from the available data sources. Any member of the research group could suggest an indicator for consideration, if he or she judged it to be in line with the guideline for the respective dimension. The indicator was retained, only if all other members of the research group—independently of each other—agreed on its face validity.

Finally, it is important to strike a balance between normative/evaluative judgments and neutral/descriptive reports. Respondents might be asked, for example, whether they believe that gays and lesbians should be able to live as they see fit (acceptance of diversity), but they might also be asked whether conditions in a given residential area, region, or country are such that gays and lesbians would be able to live a good life there. The first question tends to be normative/evaluative, the second neutral/descriptive. We have made every effort to include both types of indicators. Whenever it was necessary to choose between equally valid indicators, however, for example when there was an overabundance of indicators related to a specific dimension, we gave preference to the neutral/descriptive type.

As a result of this process, we arrived at a wide choice of indicators which served as the basis for the next steps.

2.3.2 Data Preparation

Social cohesion is a quality of a societal unit (in this book either a nation-state or a region within a nation state), not of an individual. Accordingly, our analyses relate to larger territorial entities, not to individuals.

Most of the data were drawn from public opinion surveys including on average 1,000 respondents per country. Missing values on individual responses on the selected indicators were deleted on an item-per-item basis. Where necessary, indicators were recoded or dichotomized. We aggregated these data into country measures by taking their arithmetic mean.[1]

The Gallup World Poll, too, originates from surveys of individuals; however, the data available to us from this source had already been converted into country-level measures. Indicators from other sources, such as expert ratings of ethnic conflicts or informal labor, are usually available at the country level eo ipso.

[1]Other measures such as the median or the standard deviation were considered appropriate to represent a country for a given indicator. However, from a conceptual point of view and for comparability and consistency reasons, we opted for the use of means. Distributional measures other than means (measures of dispersion, in particular) often tend to have vastly different mathematical properties than arithmetic means, a fact that would have greatly complicated the reflective index building.

As a societal-level phenomenon, drastic changes in social cohesion from one year to the next can hardly be expected. In addition, data on a yearly basis for the studied countries are limited. Therefore, we identified four waves with respect to the timing of socio-historical and socio-economic global processes of great societal impact. In the rare case that data on a given indicator from a particular source were available for multiple years within the same time period, we averaged the relevant data points.

The data were standardized applying *z*-standardization in order to bring indicators that were measured on vastly different scales to a common unit.

2.3.3 Reducing the Number of Indicators

This initial dataset consists of 297 indicators or 33 indicators per dimension on average, which is obviously too high a number for the relatively small sample of 34 countries. According to Cattell's (1966) widely accepted rule of thumb, the number of variables in a statistical analysis should not be more than a third of the number of cases. Hence, no more than 11 indicators should be used for each dimension and time period. An additional selection step was therefore needed prior to turning to factor analysis for the final selection of indicators.

Indicators could only be retained if data were available for at least two survey periods and 11 countries (approximately one third of our sample). This greatly reduced the occurrence of missing values and eased the estimation algorithm in the subsequent statistical analyses. There is an exception to every rule, however: Indicators drawn from a data set that was available for only a single time period could still be used if a similar indicator could be found in a different data set for another time period. We also made an exception for neutral/descriptive indicators recognized in the literature as particularly well suited to capturing a certain dimension of social cohesion. This permits us to draw comparisons between our results and those of other studies.

We thereby enact a narrow-choice approach, using a limited number of indicators to capture the nine dimensions. A prominent example of this approach is the Human Development Index (UNDP 2013a, b), which compiles information on average life expectancy, educational level, and per capita income using their geometric mean (the *n*th root of the product of *n* indicators) into an index of a country's level of development.

This additional screening process resulted in a manageable number of indicators, given the relatively low sample size of 34 countries, and yielded optimal data coverage in terms of missing values on the indicators; 124 indicators remained in the dataset for an empirical validation of their fit to the dimensions.

2.3.4 Final Selection of Indicators

With the help of exploratory factor analysis we test the empirical fit of the indicators to the respective dimensions. Factors refer to phenomena that are not directly measurable, but are latent (Field 2009). Measuring acceptance of diversity in a country is different from measuring that country's annual temperature. The researcher cannot take a thermometer to determine the degree to which people tolerate others who lead different life styles. Instead, we have to assume that acceptance of diversity is a factor, a latent construct, that underlies a pattern of observed attitudes towards various minority groups and is, thus, indirectly measurable through them.

Exploratory factor analysis is well-suited in situations where the associations between observed indicators and latent constructs are unknown (Byrne 2012). The analysis determines how many factors underlie the pattern of associations between the indicators and to what extent each of the indicators contributes to the factors. The contribution of an indicator is given by its factor loading. It points to the strength and direction of association between the indicator and the factor. Factor loadings can be seen as standardized regression coefficients which take values between −1 and 0 (e.g., a more negative attitude towards right-wing extremists stands for higher acceptance of diversity), or between 0 and 1 (e.g., a more positive attitude towards gays and lesbians stands for higher acceptance of diversity). According to a large-scale meta-analysis (Peterson 2000), there is agreement in the literature that absolute factor loadings of 0.25 and above indicate that a particular observed indicator allows a sufficiently potent measurement of a latent variable.

To reduce the number of selected indicators that we expect to measure a dimension at face validity we employed exploratory factor analysis (EFA) with full-information maximum likelihood (FIML) estimation in M*plus* (Muthén and Muthén 1998–2011). The greatest advantage that the method of maximum likelihood estimation offers is its robustness in dealing with missing data. In contrast to "traditional" and by now outdated techniques of handling missing data such as listwise deletion (which can considerably reduce the number of available cases, whereas we deal with 34 countries at most only), pairwise deletion (which may jeopardize the mathematical properties of the covariance matrix), or mean substitution (which reduces items' variability), FIML estimation is considered to be a state-of-the-art missing data handling technique (Enders 2010).

We specified forced one-factor solutions, thereby always extracting the factor that most strongly explains the covariation of the indicators. Indicators that do not load above the threshold of 0.25 on this first factor were disregarded as they tend to belong to other less prominent factors which we assume not to be the dimensions we are looking for.

Once the factor structures for each dimension and wave were established, we employed a second round of exploratory factor analyses to ensure that indicators are interchangeable across the four time periods. For this purpose we conducted pan-temporal (across time) EFA on the remaining indicators for each dimension.

Technically, we pooled the indicators over the four time periods in a dataset of 4 × 34 (136) cases. Thereby we tested whether these indicators fit a pan-temporal latent construct, being the dimension in question across time. Again, only these variables were retained whose absolute standardized factor loading was larger than 0.25.

These steps finalize the selection of indicators for the measurement of the nine dimensions of cohesion. For more details on the exact transformations of the 57 indicators which entered the construction of the social cohesion index, please refer to the Codebook for International Comparison, downloadable on www.social-cohesion.net. Table 2.3 lists the indicators.

2.3.5 *Reflective Measurement of Dimensions*

To measure the nine dimensions in each time period we turned to a reflective measurement approach which directly relates to factor analysis. The approach is particularly meaningful in our data setup of no completely identical indicators (e.g. from surveys) across the four time periods for any dimension.

Figure 2.2 gives an example of a reflective measurement model in which a latent construct R1 is measured with observed indicators Y1 to Y4. To reduce the level of abstraction, imagine that we measure intelligence (R1) based on reading ability (Y1), writing ability (Y2), speaking ability (Y3), and mathematics (Y4).

The direction of the arrows L1 to L4 clearly expresses the logic: The indicators depend on the latent variable or in other words, the latent construct R1 determines the manifest indicators Y1 to Y4. To come back to the example, intelligence is the reason for the performance on the four tests. As long as the indicators belong to the "item universe" of a latent construct, they can be considered interchangeable exemplary manifestations of the latent. Of course, removing an indicator may lead to less reliable measurement, but this is safeguarded by the fact that only correlating indicators are part of the measurement of a latent construct. Due to the strong associations among each other, these indicators tend to form a unidimensional construct, adding few heterogeneous facets to its measurement (Bollen and Lennox 1991). Weakly to uncorrelated indicators cannot be part of a reflective measurement model.

In the framework of confirmatory factor analysis (CFA) we fit uni-factorial structures for each dimension and time period with the selected indicators, based on the EFAs conducted previously. The framework was used solely as a tool to extract factor scores. For a given dimension and time period, a country's factor score represents its relative position on that dimension in comparison to the other countries in the sample. Due to the relative nature of factor scores, in no way should a factor score be interpreted as the absolute strength of a dimension in a given

Table 2.3 List of indicators in international comparison

Dimension/Indicators	Period 1	Period 2	Period 3	Period 4
1. Social relations				
1.1 Social networks				
Important in life: Friends (No/Yes)	WEVS	WEVS	WEVS	
How much time during past week you felt lonely? (ESS: None or almost none – All or almost all of the time; EQLS: At no time --- All of the time) (-)			ESS	EQLS
How often socially meet with friends, relatives or colleagues? (Never --- Every day)		ESS	ESS	ESS
Support if needed advice on serious personal or family matter (No/Yes)		EQLS	EQLS	EQLS
[Have relatives or friends you] Count on to help (No/Yes)			GWP	GWP
1.2 Trust in people				
(WEVS: Can't be too careful; GWP: Have to be careful --- People can be trusted	WEVS	WEVS	WEVS	GWP
(People try to take advantage ---) People try to be fair		ESS	ESS	ESS
(People mostly look after themselves ---) Most of the time people helpful		ESS	ESS	ESS
1.3 Acceptance of diversity				
Would not like to have neighbor: of different race (No/Yes)	WEVS	WEVS	WEVS	
Would not like to have neighbor: immigrants/ foreign workers (No/Yes)	WEVS	WEVS	WEVS	
Rating of ethnic tension (High tension --- Low tension)	ICRG	ICRG	ICRG	ICRG
Justifiable: homosexuality (Never --- Always)	WEVS			
Gays and lesbians free to live life as they wish (Disagree strongly --- Agree strongly)		ESS	ESS	ESS
Country's cultural life enriched by immigrants (Cultural life undermined --- Cultural life enriched)		ESS	ESS	
Country's culture undermined by immigrants (Culture enriched --- Culture undermined) (–)				EQLS
Rating of religious tension (High tension --- Low tension)	ICRG	ICRG	ICRG	ICRG
City/area good place for: Racial/ethnic minorities (No/Yes)			GWP	GWP
City/area good place for: Gay or lesbian people (No/Yes)			GWP	GWP
2. Connectedness				
2.1 Identification				
How attached to country? (Not at all --- Very)	EB	EB	EB	EB
How proud of nationality? (Not at all --- Very)	WEVS	WEVS	WEVS	
Ideally, would permanently move to another country (No/Yes) (–)			GWP	GWP
2.2 Trust in institutions				
Confidence in police (WEVS: Not at all --- A great deal; GWP: No/Yes)	WEVS	WEVS	GWP	GWP
Confidence in parliament (WEVS: Not at all --- A great deal; EQLS: Do not trust at all --- Trust completely)		WEVS	WEVS	EQLS
Confidence in political parties (ESS: No trust at all --- Complete trust; WEVS: Not at all --- A great deal)		WEVS	WEVS	ESS
Confidence in justice system (WEVS: Not at all --- A great deal; GWP: No/Yes)	WEVS	WEVS	GWP	GWP
Confidence in health care (No/Yes)			GWP	GWP
Confidence in financial institutions (No/Yes)			GWP	GWP
Honesty of elections (No/Yes)			GWP	GWP
Didn't report a crime, because feared/did not like the police (No/Yes) (–)	ICVS	ICVS	ICVS	
2.3 Perception of fairness				
Corruption (High corruption --- Low corruption)	ICRG	ICRG	ICRG	ICRG
Corruption within businesses (No/Yes) (–)			GWP	GWP
To get ahead need to be corrupt (Strongly disagree – Strongly agree) (–)		ISSP		ISSP
To get ahead, forced to do things that are not correct (Disagree completely – Agree completely) (–)		EQLS	EQLS	
Government should reduce differences in income levels (Strongly disagree – Strongly Agree) (–)		ESS	ESS	ESS
I earn what I deserve (No/Yes)		ISSP		ISSP
Get paid about what deserved (No/Yes)	ISJP			
Pay about just for me (No/Yes)		ISJP		ISJP
Tensions between the rich and the poor (No tension/Some tension/A lot of tension) (–)		EQLS	EQLS	EQLS
3. Focus on the common good				
3.1 Solidarity and helpfulness				
(People should provide for themselves ---) Government provide for people (–)	WEVS	WEVS	WEVS	
Help others excl. family/work/voluntary organizations (Never --- At least once a week)			ESS	
Help others excl. work/voluntary organizations (Never --- Every day)		ESS		
Unpaid voluntary work through community and social services (Not at all --- Every week)				EQLS
Donated money (No/Yes)			GWP	GWP
Helped a stranger (No/Yes)			GWP	GWP
3.2 Respect for social rules				
To what extent people obey traffic laws (Not at all --- Completely)			EQLS	
How wrong to commit traffic offense (Not at all --- Seriously wrong)?				ESS
Feel safe after dark on the street (Very unsafe --- Very safe)	ICVS	ICVS		
Feel safe walking alone at night (No/Yes)			GWP	GWP
Size of shadow economy (% of GDP) (–)	S&B	S&B	S&B	S&B
3.3 Civic participation				
Important in life: politics (No/Yes)	WEVS	WEVS	WEVS	
Interest in politics (Not at all --- Very)	WEVS	WEVS	WEVS	ESS
Worn or displayed campaign badge/sticker (No/Yes)		ESS	ESS	ESS
Signed a petition (WEVS: Would (never) do/Have done; EQLS: No/Yes)	WEVS	WEVS	WEVS	EQLS
Contacted politician or public official (No/Yes)		EQLS		
Voiced opinion to public official (No/Yes)			GWP	GWP
Served on committee or done voluntary work for organization (No/Yes)		EQLS		
Volunteered time to organization (No/Yes)			GWP	GWP
Worked in association or organization (No/Yes)		ESS	ESS	ESS
Voting turnout in elections or referenda (%)	VAN	VAN	VAN	VAN

Indicators marked (–) are reversed when calculating the dimension. Explanation of abbreviations: EB = Eurobarometer, EQLS = European Quality of Life Survey, ESS = European Social Survey, GWP = Gallup World Poll, ICRG = International Country Risk Guide, ICVS = International Crime Victims Survey, ISJP = International Social Justice Project, ISSP = International Social Survey Program, S&B = Schneider & Buehn (2012), VAN = Vanhanen (2011), WEVS = World Values Survey or European Values Study.

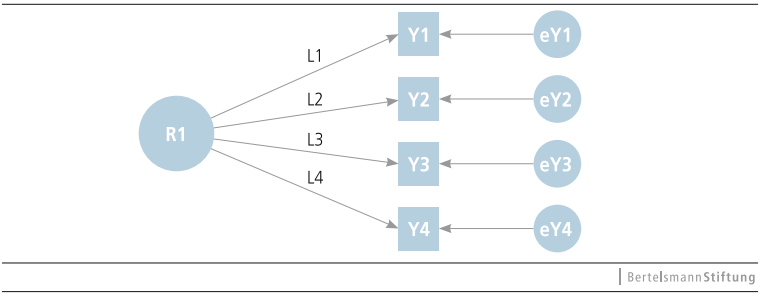

Fig. 2.2 Reflective measurement model

country. For example, a factor score of 1.5 for Country X on Dimension A only shows that the strength of Dimension A in that country is 1.5 standard deviations greater than the average value on that dimension.

In principle, fitting the dimensions was straightforward, as the prior procedures ensured that the dataset at this point is clean of indicators that do not sufficiently belong to the them.[2,3] Occasionally we took advantage of specifying error term correlations in order to improve the fit of the factor structure. The latter is signaled by numerous goodness-of-fit indices. As the nature of the study is exploratory, we do not report goodness-of-fit measures. To provide an indication on the quality of the constructed dimensions, we instead resorted to Cronbach's alpha coefficient of internal consistency, a commonly used measure for the validity of factor analysis (Manly 2004). In the practice of psychometrics, a Cronbach's alpha of 0.80–0.90 is a desirable absolute threshold. Relative thresholds for Cronbach's alpha (which are more pertinent in the wider social sciences) take into account the length of a 'scale' (number of items measuring a latent variable), suggesting that an alpha of 0.10 times the number of its indicators is sufficient (Nunnally 1967). We followed Raykov (2008) on calculating Cronbach's alpha directly within CFA in M*plus*.

Tables A.2, A.3, A.4, A.5, A.6, A.7, A.8, A.9 and A.10 of the Appendix present the final factor solutions for each dimension and wave. In all instances Cronbach's alpha suggests reliable measurement. The results of the pan-temporal analysis give the same impression (see Tables A.11, A.12 and A.13 of the Appendix).

[2]Vanhanen's indicator of political participation exhibited loadings of 0.18 (Wave 1), 0.21 (Wave 2), 0.39 (Wave 3), 0.43 (Wave 4). We nevertheless retained it since it is a neutral/descriptive indicator.

[3]Factor structures with one or two indicators are unidentified due to negative degrees of freedom. In the case of a single-indicator solution, we constrain its factor loading to 1 and its measurement error to 0. When two indicators are available, it is enough to constrain the factor loadings of both indicators to 1, thereby giving each an equal weight.

2.3.6 *Completion of Dimension Scores*

Due to missing information on some indicators, not all countries receive factor scores, that is, scores on the dimensions in a given wave. Applying an effective workaround suggested by Enders (2010), we were able to close these gaps. Missing dimension scores in a wave were estimated on the basis of available dimension scores from other waves. This approach is more reliable than alternatives that involve transferring data from other time periods. We, of course, clearly mark any estimated dimension score in the presented results. Some caution is warranted for their interpretation.

Within a dimension, we recast the extracted scores from each wave as sole manifest indicators of latent variables. This can be seen as if we treated the manifest indicators as outcomes, while at the same time preserving their exogenous status in the model. Factor loadings were constrained to 1, which transfers the metric of the observed variable to the latent one, whereas the residual variances were constrained to zero, which transfers the variance of the observed variable to the latent one (Enders 2010; see Fig. 2.3). Since each latent variable predicts the observed and all possible correlations between the four latent variables are explicated, any missing data point on the observed variables is estimated for the latent ones on the basis of the correlations among the four waves. It is important to note that this recasting from the manifest to the latent level does not change the model: It still remains a fully saturated one.

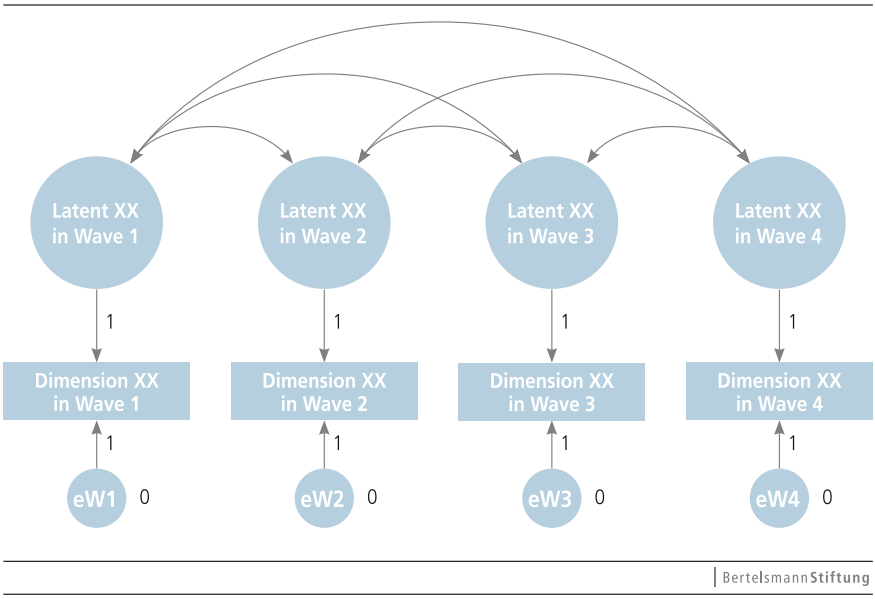

Fig. 2.3 Completing dimension scores

The factor scores on the latent variables were then saved. The values in each dimension and wave come out with a mean of zero but with different standard deviations. The 34 scores for each dimension and wave were then standardized (essentially by dividing each value through the standard deviation) to reach final dimension scores with a standard deviation of 1 and a mean of 0. This procedure ensures a good relative comparison of values across waves and across dimensions.

On the basis of these values we constructed all further measurements, rankings, descriptions, and visualizations.

2.3.7 *Formative Measurement of Social Cohesion*

In order to calculate country scores on an overall index of cohesion we averaged across the nine dimension values. We further calculated partial indices for the three domains of cohesion—social relations, connectedness, and focus on the common good—by taking the means of the respective dimensions for each country. Since the dimension scores were standardized, all dimensions have equal weight in the calculation of the indices.

Here we used a formative approach to index building. It underlies the theoretical considerations that the various dimensions of cohesion act as building blocks of the respective index (see Table 1.1). An example is offered in Fig. 2.4. The indicators X1–X4 determine the latent variable F1 (Bollen and Lennox 1991). They are its building blocks and each of them contributes a unique facet to its measurement. Unlike reflective indicators, formative indicators are not interchangeable. They need not be correlated among each other as long as there is a sound theoretical basis to justify why they have been compiled together. Formative index building is a common approach in social science and economic research. The Human Development Index, for example, uses it; so do retail price indices.

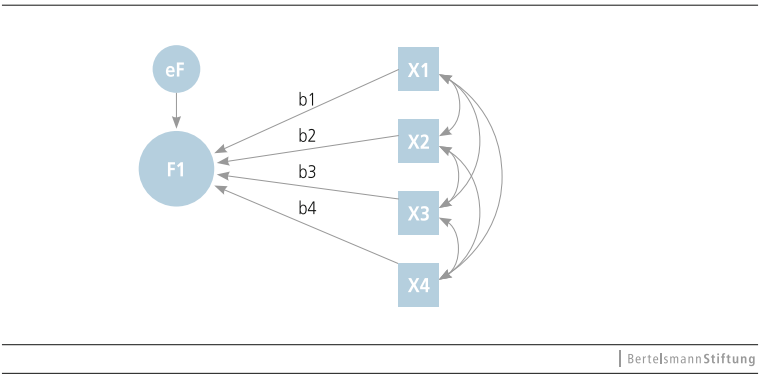

Fig. 2.4 Formative measurement model

Scores on the overall index of cohesion and the three domains were not standardized after their compilation. Therefore, their standard deviation is less than one. If all dimension values were uncorrelated and normally distributed, the standard deviation of the average over these nine variables would be mathematically: $\sqrt{1/N} = \sqrt{1/9} = 0.33$. Empirically, the standard deviations are 0.68 (Wave 1), 0.72 (Wave 2), 0.77 (Wave 3), and 0.76 (Wave 4). The fact that the standard deviations of cohesion scores are larger than 0.33, emphasizes that the dimensions are correlated.

2.3.8 Limitations of the Approach

The use of changing indicators over time presents two non-negligible limitations to the research aim. First, it may not always be certain whether changes in cohesion over time reflect actual changes related to societal processes or whether they can be attributed to the use of different indicators. However, after conducting pan-temporal confirmatory factor analyses for each dimension on the final selection of indicators we are confident that we are dealing here primarily with real changes.

The second limitation of our reflective measurement approach is that it precludes any assessment of absolute trends of cohesion over time. This is an unavoidable consequence of missing data, especially in the first two time periods, which forced us to use changing indicator sets across time. The measurement approach permits only relative conclusions about a country's level of social cohesion. It shows where each country stands in a given time period relative to the other 33 countries. Consequently, changes in social cohesion can only be interpreted in terms of relative gains or losses in cohesion compared to the other countries studied. It could also be that the absolute level of cohesion in a given country has not at all changed from one time period to another, but other countries have experienced gains or losses which positions the country in question relatively lower or higher in the next time period. It is impossible to draw conclusions about the absolute level of social cohesion, or whether cohesion has become stronger or weaker in absolute terms. It is only possible to identify absolute trends in individual indicators that are found across several—ideally all—time periods in identical form.

Due to the relative nature of the measurement approach, we cannot produce a rating of the countries with respect to their index scores. Only a ranking is possible.

2.3.9 Five-Color Grouping Scheme

For easier interpretation and presentation, country scores on the nine dimensions, the three domains, and the overall index of cohesion have been color-coded into a five-group scheme that uniformly applies the same "natural" thresholds from the standard normal distribution. The colors mark the top group (dark blue), the upper

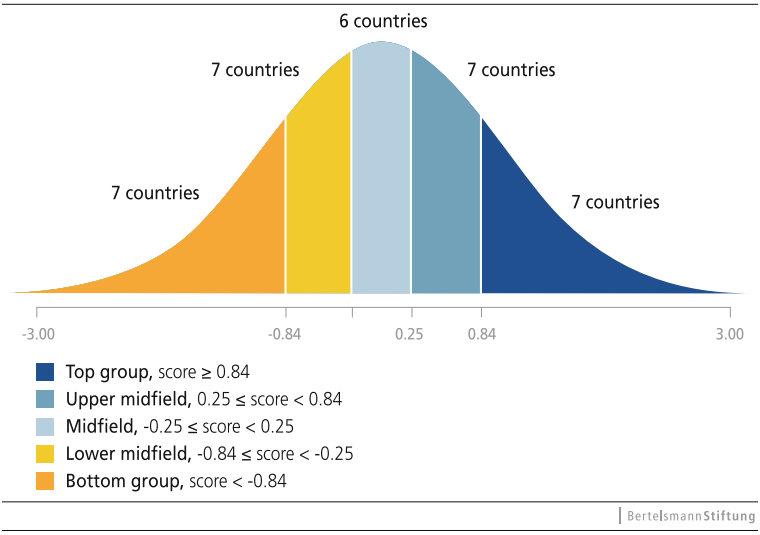

Fig. 2.5 Threshold values for the five groups

midfield (blue), the midfield (light blue), the lower midfield (yellow), and the bottom group (orange). The threshold values defining the groups were set in a way that ensured a normal distribution, with approximately 20 percent of the countries in each group (see Fig. 2.5). 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 rest.

The empirical values on the dimensions, however, do not necessarily have a normal distribution. As a result, the single dimensions, the domains, and the overall index may differ with respect to the number of countries in each group. Nevertheless, the unique thresholds remain meaningful across all scores due to the fact that the dimension scores were standardized.

It is important to emphasize once again that a comparison of a country's group membership over time shows only relative changes with respect to the other countries. If, for example, a country moves from the third to the second tier between the third and fourth survey periods, this does not necessarily mean that cohesion, in absolute terms, has become stronger, since cohesion in other countries may have declined.

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Chapter 3
Level and Trend of Social Cohesion

Abstract This chapter presents our empirical evidence on the level and trend of social cohesion in 34 Western societies, as studied in four time periods between 1989 and 2012. The country ranking on the overall index of cohesion reveals a strikingly clear geographical pattern in the most recent period: in descending order, Northern Europe, North America and Oceania, Western Europe, Southern Europe and Central and Eastern Europe, Southeastern Europe. The comparison across time shows that social cohesion is a by-and-large stable characteristic of societies. We additionally provide the relative country standings and changes over time on the three domain indices and the nine constituent dimensions of cohesion. Some dimensions such as social networks and trust in people appear relatively stable, whereas others such as trust in institutions and acceptance of diversity exhibit more pronounced fluctuations. In that the chapter offers a comparative overview on the evolution of social cohesion from different perspectives. It further highlights particular country-specific deviations from the overall pattern.

Keywords Social cohesion index · International comparison · Changes over time · European Union · OECD

This chapter describes the level and trend of social cohesion in the 34 studied countries with respect to the overall index, its three domains, and the nine dimensions. First, we present the level of social cohesion in the most recent wave, 2009–2012. We then give an account of changes over time.

3.1 Overall Index of Cohesion

Which countries have relatively strong social cohesion? In which countries is it weak? Table 3.1 shows the scores of the 34 countries and to which of the five groups they belong in each of the four waves. They are listed in descending order, according to their score on the overall index of social cohesion for the most recent wave.

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DOI 10.1007/978-3-319-32464-7_3

Table 3.1 Overall index of social cohesion for 34 EU and OECD countries

	1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012		1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012
Denmark	0.94	1.06	1.31	1.32	Belgium	-0.17	-0.03	0.16	-0.20
Norway	0.88	1.06	1.02	1.16	Estonia	-0.86	-0.76	-0.68	-0.32
Finland	0.59	0.60	0.99	1.05	Malta	-0.23	0.29	-0.18	-0.33
Sweden	1.24	1.03	0.98	0.95	Poland	-0.56	-0.77	-0.70	-0.33
New Zealand	0.42	0.68	0.96	0.89	Slovenia	-0.37	-0.55	-0.40	-0.42
Australia	0.72	0.62	0.90	0.88	Czech Republic	-0.46	-0.75	-0.80	-0.47
Canada	0.99	0.72	0.89	0.83	Italy	-0.40	-0.39	-0.56	-0.49
United States	1.15	0.97	0.73	0.82	Hungary	-0.70	-0.93	-0.73	-0.53
Switzerland	0.79	0.59	0.91	0.65	Portugal	-0.47	0.25	-0.45	-0.57
Luxembourg	0.35	0.54	0.57	0.62	Slovakia	-0.97	-0.87	-0.79	-0.65
Netherlands	0.76	0.75	0.51	0.58	Israel	-0.72	-0.69	-0.52	-0.77
Ireland	0.44	0.47	0.64	0.54	Cyprus	-0.32	-0.36	-0.40	-0.77
Austria	0.33	0.54	0.53	0.52	Lithuania	-0.73	-0.98	-1.30	-0.93
Germany	0.06	0.06	0.06	0.39	Latvia	-0.99	-0.54	-0.92	-0.97
United Kingdom	0.46	0.37	0.26	0.24	Bulgaria	-0.71	-0.88	-1.13	-0.97
France	0.05	0.25	0.09	-0.07	Greece	-0.30	-0.97	-0.90	-1.26
Spain	-0.23	-0.11	0.06	-0.11	Romania	-0.96	-1.28	-1.11	-1.28

The table shows country scores on the overall index of social cohesion in each of the four examined periods and thereby trends in social cohesion across time.
The five colors designate the top tier (dark blue = ■), second tier (blue = ■), middle tier (light blue = ■), fourth tier (yellow = ■) and bottom tier (orange = ■).

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3.1.1 Most Recent Wave, 2009–2012

In the most recent time period, which covers the years between 2009 and 2012, social cohesion is strongest in Denmark, followed by Norway, Finland, and Sweden. The English-speaking non-European countries, also known as the Anglo-Saxon world, are next, ranking fifth through eighth. They are followed by the relatively small and wealthy countries in Western Europe Switzerland, Luxembourg, and the Netherlands, as well as Germany, which manages to join the second tier. The middle tier includes three large EU countries: the United Kingdom, France, and Spain. The fourth tier, consisting of countries of Central and Eastern Europe and the Mediterranean region, ranges from Estonia to Cyprus. The bottom tier, finally, includes the two Baltic states Lithuania and Latvia, as well as the Southeastern European countries of Bulgaria, Greece, and Romania. Overall, a surprisingly clear geographic pattern emerges, ranked from top to bottom: Northern Europe; North America and Oceania; Western Europe; Southern Europe and Central and Eastern Europe; the Baltic region; Southeastern Europe. This is the

same pattern we find in other international comparisons that focus on issues such as quality of life and subjective well-being (e.g. Eurofound 2014). We explore the reasons behind these "families of nations" primarily in Chap. 5.

3.1.2 Overall Index Changes Over Time

Table 3.1 also sheds light on changes that have occurred over time. Numerous countries have maintained their position throughout all four time periods, as reflected in their unchanged color coding. In all of the Nordic countries except Finland, cohesion has remained at a very high level throughout the nearly 25-year period covered; they rank at the top. Other examples of stability include the Netherlands, Austria, Spain, Poland, Italy, and Cyprus.

Obviously, social cohesion is a stable characteristic of society. It does not change dramatically over the short term (although it will be important to take a closer look in the next few years at the countries that have been particularly affected by the financial and migrant crises). Changes that do occur usually involve moving to the next higher or lower group. It was only in the case of Malta that rankings changed by more than one tier; in this case, a decline. Among the countries that have experienced relative improvements are Finland, New Zealand, Australia, Germany, and Slovakia. The trend was downward for the United States, the United Kingdom, France, Latvia, and Bulgaria, plus—as mentioned above—Malta. Canada has fluctuated between the two top groups.

3.2 Domains of Cohesion

How did the country ranking change for the three domains over the nearly quarter century of our study? In this section we describe significant trends in the three domains of cohesion—social relations, connectedness, and focus on the common good. Here, as in the entire report, we focus primarily on relative changes. Table 3.2 shows the trends of the three domains. For each domain, the countries are ranked according to their current (2009–2012) degree of cohesion.

3.2.1 Social Relations

The ranking on the social relations domain is very similar to the overall one, with the Nordic countries leading across all four time periods. The Netherlands were on par with the Nordic countries in the early 1990s, but subsequently fell behind.

Table 3.2 Domain scores over time

Social relations	1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012
DK	1.14	1.42	1.48	1.46
FI	0.97	1.01	1.06	1.25
SE	1.69	1.51	1.36	1.19
NO	1.56	1.38	1.43	1.12
NZ	0.58	0.96	0.86	0.84
AU	0.94	0.59	0.90	0.83
CA	0.70	0.67	0.92	0.78
IE	0.57	0.68	0.84	0.65
NL	1.48	0.93	0.77	0.60
GB	0.47	0.43	0.66	0.51
LU	0.08	0.31	0.43	0.49
US	0.76	0.68	0.55	0.42
DE	0.02	0.36	0.33	0.40
CH	0.69	0.73	0.92	0.37
ES	0.30	-0.01	0.44	0.16
AT	-0.13	0.35	-0.17	0.11
BE	0.05	-0.13	0.46	0.04
PL	-0.72	-1.29	-0.86	-0.04
EE	-0.81	-0.38	-0.61	-0.08
CZ	-0.28	-0.56	-0.74	-0.13
FR	-0.14	0.40	0.10	-0.14
SL	-0.49	-0.45	-0.61	-0.23
PT	-0.78	0.10	-0.44	-0.23
LT	-0.94	-0.73	-1.20	-0.23
HU	-0.61	-1.36	-0.68	-0.45
IT	0.07	-0.53	-0.34	-0.50
MT	-0.75	-0.70	-0.79	-0.56
SK	-0.69	-0.72	-0.77	-0.66
BG	-0.41	-0.64	-0.92	-0.98
LV	-1.25	-0.08	-0.80	-1.05
RO	-1.18	-1.61	-1.47	-1.23
IL	-1.47	-1.00	-0.94	-1.25
GR	-0.63	-1.21	-1.35	-1.61
CY	-0.78	-1.10	-0.81	-1.86

Connectedness	1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012
DK	1.10	1.16	1.54	1.76
NO	0.76	1.20	0.75	1.17
CH	0.47	-0.20	0.60	0.99
NZ	0.74	0.31	0.95	0.96
CA	1.05	0.79	0.87	0.92
FI	0.53	0.35	1.29	0.89
AU	0.68	1.00	0.77	0.89
SE	0.63	0.51	0.86	0.79
LU	0.61	0.68	0.61	0.68
US	1.03	0.75	0.41	0.52
AT	0.26	0.02	0.54	0.52
CY	0.20	0.39	0.49	0.23
IE	0.99	0.36	0.59	0.20
DE	-0.60	-0.67	-0.79	0.00
NL	0.16	0.27	-0.15	-0.04
EE	-1.10	-1.01	-0.48	-0.04
MT	0.12	0.89	0.17	-0.22
PL	-0.24	-0.16	-0.50	-0.23
FR	-0.10	-0.32	-0.06	-0.26
ES	-0.08	0.53	0.18	-0.28
IL	-0.31	-0.29	-0.64	-0.31
GB	0.59	0.32	-0.30	-0.31
IT	-0.77	0.19	-0.91	-0.46
PT	-0.14	1.07	0.14	-0.48
BG	-1.10	-0.68	-0.65	-0.50
HU	-0.29	-0.36	-0.48	-0.56
GR	0.19	-0.73	-0.07	-0.62
SL	0.09	-0.50	-0.16	-0.62
SK	-1.31	-0.78	-1.13	-0.69
BE	-0.67	-0.45	-0.26	-0.75
LT	-0.90	-1.08	-0.90	-0.86
CZ	-1.01	-0.82	-1.03	-0.88
LV	-0.86	-1.61	-1.39	-1.20
RO	-0.71	-1.12	-0.86	-1.22

Orientation towards the common good	1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012
US	1.66	1.48	1.23	1.51
NO	0.31	0.61	0.88	1.19
NL	0.64	1.04	0.89	1.17
FI	0.26	0.45	0.63	1.02
AT	0.85	1.25	1.23	0.92
AU	0.54	0.26	1.03	0.91
SE	1.41	1.08	0.74	0.88
NZ	-0.06	0.76	1.08	0.87
CA	1.22	0.69	0.89	0.78
IE	-0.23	0.38	0.50	0.77
DE	0.75	0.50	0.64	0.75
DK	0.58	0.60	0.93	0.75
LU	0.35	0.63	0.66	0.69
CH	1.20	1.24	1.21	0.60
GB	0.32	0.35	0.42	0.51
FR	0.38	0.68	0.21	0.20
BE	0.10	0.49	0.29	0.10
ES	-0.91	-0.86	-0.43	-0.21
MT	-0.07	0.69	0.08	-0.22
CZ	-0.08	-0.88	-0.64	-0.41
SL	-0.72	-0.69	-0.43	-0.41
IT	-0.49	-0.81	-0.44	-0.51
HU	-1.19	-1.07	-1.04	-0.58
SK	-0.90	-1.10	-0.48	-0.59
CY	-0.39	-0.36	-0.87	-0.67
PL	-0.71	-0.88	-0.76	-0.73
IL	-0.38	-0.78	0.02	-0.74
EE	-0.68	-0.88	-0.96	-0.83
LV	-0.82	-0.46	-1.04	-0.99
PT	-0.50	-0.42	-1.05	-1.00
LT	-0.39	-0.61	-1.30	-1.37
RO	-1.01	-1.11	-1.00	-1.40
BG	-0.63	-1.32	-1.83	-1.42
GR	-0.46	-0.96	-1.29	-1.54

The table shows country scores on the overall index of social cohesion in each of the four examined periods and thereby trends in social cohesion across time.
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Currently, New Zealand is the closest runner-up to the Nordic countries in the domain of social relations. The second strongest group comprises the Anglo-Saxon and Western European countries. Southern and Eastern European countries are located in the lower half of the ranking, while Southeastern European countries are in the bottom. Germany has held its position in the second tier since 1996. Relative to the other countries, social relations improved in Poland, Estonia, Lithuania, the Czech Republic, Slovenia (all post-communist countries), and Portugal. Countries that have moved down in the ranking are Latvia (a post-communist country), Greece, Cyprus, Spain, the Netherlands, Belgium, and Switzerland.

3.2.2 Connectedness

The ranking on connectedness does not exhibit so strong a geographical pattern. The Nordic countries score high, but only Denmark is clearly ahead of the other nations. Switzerland, New Zealand, Canada, and Australia rank higher than Finland and Sweden. The rest of the ranking on connectedness is quite similar to the ranking on the overall index of cohesion. Notable exceptions are Bulgaria, Greece, Israel, and especially Cyprus, which score much better on connectedness than on overall cohesion, mainly because people in these four countries identify strongly with their nation. Other exceptions are the Czech Republic, Belgium, and the United Kingdom, which score much lower on connectedness than on overall cohesion (national identity is quite weak in Belgium and the United Kingdom, mirroring the strong regional tensions prevalent in both countries). Connectedness has improved over time—in relative terms—in Switzerland, Germany, Estonia, and Bulgaria. The opposite trend can be observed for Portugal, the United States, and the United Kingdom, where Scotland held a referendum on independence in September 2014 (well after the end of our most recent phase of analyses), in which the electorate voted to remain part of the United Kingdom.

3.2.3 Focus on the Common Good

The ranking for the third domain, focus on the common good, deviates most strongly from that on the overall index of cohesion, at least at the top of the list. The United States lead the field, indicating that the American exceptionalism as a nation of joiners (first described by de Tocqueville) is still alive. Following at some considerable distance are Norway, the Netherlands, and Austria. The remaining ranking is similar to that for overall cohesion. Countries with an upward trend over time are Norway, Finland, Australia, New Zealand, Hungary, and the Czech Republic. Countries with a downward trend are Switzerland, France, Malta, Israel, Latvia, Portugal, Lithuania, and Greece. Across countries, the dispersion of scores increasingly approximates a bimodal distribution. Fewer countries have average scores, whereas the groups with a strong and a weak orientation towards the common good grew larger over time.

3.3 Dimensions of Cohesion

In the following section we describe substantial trends in scores on the nine cohesion dimensions. Again we focus predominantly on relative changes.

3.3.1 Social Relations, Trust in People, Acceptance of Diversity

Table 3.3 ranks the countries based on their scores in the fourth period for the domain of social relations. The other columns show trends over time in the three related dimensions: social networks, trust in people, and acceptance of diversity, as well as—for comparison purposes—the current overall index.

Country rankings are most stable for trust in people, followed by social networks. Rankings for acceptance of diversity have changed the most, and this is due primarily to quite dramatic changes in migration patterns since the fall of the Iron Curtain. The Netherlands and Germany—countries that have experienced a substantial increase in immigration—have slipped from the top to the middle group with respect to acceptance of diversity; Switzerland has dropped yet further, from the top to the fourth tier. In contrast, Poland and Romania—both emigration countries—have improved their weak scores substantially to join the middle or even the second tier. In the case of Poland, a trend toward secularization has probably led to greater acceptance of more diverse lifestyles (e.g. homosexuality). Rankings for acceptance of diversity, which might also be interpreted as a more cosmopolitan world view, differ substantially from overall rankings—in contrast to the other two dimensions. When it comes to social networks Ireland and Australia are among the top countries. The United States have been experiencing a downward trend and find themselves currently no higher than in the middle tier. Trust in people has increased in Estonia and declined in Italy and Poland.

What about absolute changes? Did cohesion grow stronger, or get weaker? An analysis of changes in trust in other people, based on the individual indicators and averaging all of the countries, shows a somewhat positive trend over the past 20 years. Trends for the other two dimensions are inconsistent, depending on the indicator. While acceptance of gays and lesbians has been growing, there has been a drop in the number of people who believe that immigrants enrich society. Religious and ethnic tensions have been also on the rise. In contrast, results for social networks, the most personal dimension of social cohesion, have remained quite stable. Across all countries, an average of 91 % of people currently report that they have friends or relatives who will help them if they are in difficulty. This figure stood at 92 % in the middle of this century's first decade.

3.3.2 Identification, Trust in Institutions, Perception of Fairness

Table 3.4 ranks the countries based on their scores in the fourth period for the domain of connectedness. The other columns show trends over time in the three related dimensions: identification, trust in institutions, and perception of fairness, as well as the current overall index for comparison purposes.

Table 3.3 Scores on social networks, trust in people, and acceptance of diversity over time

	Social relations subindex 2009 – 2012	1.1 Social networks 1989–1995	1.1 Social networks 1996–2003	1.1 Social networks 2004–2008	1.1 Social networks 2009–2012	1.2 Trust in people 1989–1995	1.2 Trust in people 1996–2003	1.2 Trust in people 2004–2008	1.2 Trust in people 2009–2012	1.3 Acceptance of diversity 1989–1995	1.3 Acceptance of diversity 1996–2003	1.3 Acceptance of diversity 2004–2008	1.3 Acceptance of diversity 2009–2012	Overall index for comparison 2009 – 2012
DK	1.46	0.85	1.16	1.46	1.45	1.52	2.27	2.15	2.06	1.06	0.83	0.82	0.87	1.32
FI	1.25	0.14	1.04	1.25	0.8	1.86	1.63	1.56	1.58	0.91	0.35	0.37	1.37	1.05
SE	1.19	2.01	1.43	1.21	0.58	2.08	1.74	1.46	1.54	0.97	1.37	1.4	1.45	0.95
NO	1.12	1.92	1.62	1.47	0.82	2.01	1.98	1.81	1.75	0.74	0.53	1.01	0.78	1.16
NZ	0.84	0.28	0.77	0.51	0.84	0.89	0.98	0.8	0.79	0.58	1.12	1.27	0.9	0.89
AU	0.83	1.57	0.67	0.72	0.99	0.34	0.53	0.65	0.53	0.92	0.58	1.33	0.97	0.88
CA	0.78	0.74	1.07	1.01	0.6	1.21	0.27	0.34	0.77	0.16	0.67	1.39	0.95	0.83
IE	0.65	1	0.75	1.12	1.17	0.83	1.03	0.74	0.35	-0.11	0.25	0.67	0.44	0.54
NL	0.6	1.33	0.54	0.78	0.84	1.24	1.04	0.95	1.21	1.87	1.21	0.59	-0.25	0.58
GB	0.51	0.57	0.54	0.95	0.84	0.59	0.4	0.34	0.3	0.26	0.35	0.68	0.4	0.24
LU	0.49	0.16	0.18	0.29	0.42	-0.31	-0.05	0.19	-0.3	0.38	0.8	0.81	1.35	0.62
US	0.42	1.46	1.22	0.83	0.09	0.57	0.23	0.21	0.45	0.24	0.61	0.61	0.74	0.82
DE	0.4	-0.33	-0.24	0.29	0.65	-0.13	0.33	0.35	0.42	0.51	0.99	0.34	0.14	0.39
CH	0.37	0.73	0.76	1.1	0.58	0.52	0.85	1.13	1.12	0.83	0.56	0.53	-0.61	0.65
ES	0.16	0.19	-0.07	0.28	0.42	-0.19	-0.23	-0.26	-0.23	0.91	0.29	1.3	0.28	-0.11
AT	0.11	-0.38	0.27	0.38	0.65	-0.21	0.31	0.39	-0.03	0.21	0.48	-1.28	-0.28	0.52
BE	0.04	0.47	0.28	0.58	0.41	-0.09	-0.03	0.27	0.4	-0.23	-0.65	0.53	-0.68	-0.2
PL	-0.04	-1.33	-1.7	-0.68	0.16	-0.2	-1.45	-0.95	-0.54	-0.63	-0.71	-0.95	0.25	-0.33
EE	-0.08	-1.19	-0.08	-0.8	-0.52	-0.49	-0.59	0.13	0.72	-0.76	-0.45	-1.17	-0.45	-0.32
CZ	-0.13	-1.07	-1	-0.83	-0.05	-0.45	-0.65	-0.35	-0.44	0.68	-0.02	-1.02	0.08	-0.47
FR	-0.14	0.03	1.06	0.25	0.12	-0.81	-0.12	0.15	0.22	0.35	0.25	-0.09	-0.77	-0.07
SL	-0.23	-0.06	-0.49	0.06	0.3	-1.23	-0.81	-0.63	-1.1	-0.18	-0.04	-1.26	0.13	-0.42
PT	-0.23	-1.39	-0.02	-0.99	-0.87	-0.88	-0.79	-0.82	-0.65	-0.06	1.12	0.5	0.83	-0.57
LT	-0.23	-1.46	-1.39	-1.75	-0.24	-0.27	-0.51	-0.84	-0.34	-1.1	-0.3	-1.01	-0.11	-0.93
HU	-0.45	-0.87	-2.14	-1.25	-0.65	-0.69	-0.87	-0.9	-0.73	-0.28	-1.08	0.12	0.04	-0.53
IT	-0.5	-0.08	-0.45	-0.14	-0.77	-0.03	-0.82	-1.07	-0.67	0.25	-0.32	0.19	-0.07	-0.49
MT	-0.56	-0.78	-0.78	-0.65	0.07	-0.74	-0.7	-0.68	-0.99	-0.74	-0.63	-1.03	-0.77	-0.33
SK	-0.66	-0.89	-0.81	-0.6	0.03	-0.84	-0.66	-1.05	-1.12	-0.35	-0.69	-0.66	-0.89	-0.65
BG	-0.98	-0.18	-0.33	-1.22	-1.48	-0.3	-0.28	-1.33	-1.35	0.74	-1.32	-0.22	-0.11	-0.97
LV	-1.05	-1.68	-0.14	-1.62	-1.33	-1.06	-0.69	-0.22	-1.19	-0.99	0.6	-0.56	-0.63	-0.97
RO	-1.23	-1.08	-1.64	-2.06	-2.92	-1.26	-1.07	-1.89	-1.03	-1.19	-2.11	-0.47	0.26	-1.28
IL	-1.25	-0.19	0.68	-0.21	-0.03	-0.46	-0.35	0.07	-0.25	-3.76	-3.33	-2.67	-3.47	-0.77
GR	-1.61	-0.68	-1.47	-1.28	-2.09	-1.82	-2.04	-1.91	-1.78	0.59	-0.13	-0.87	-0.94	-1.26
CY	-1.86	0.2	-1.27	-0.46	-1.9	-1.25	-0.88	-0.78	-1.49	-1.3	-1.16	-1.18	-2.19	-0.77

The figure shows the ranking for all countries, sorted according to the social relations subindex in the current survey period, as well as the trend over time in the three related dimensions. For purposes of comparison, the overall index of social cohesion for the current survey period is shown the right.

Table 3.4 Scores on identification, trust in institutions, and perception of fairness over time

	Connectedness subindex 2009 – 2012	2.1 Identification 1989–1995	2.1 Identification 1996–2003	2.1 Identification 2004–2008	2.1 Identification 2009–2012	2.2 Trust in institutions 1989–1995	2.2 Trust in institutions 1996–2003	2.2 Trust in institutions 2004–2008	2.2 Trust in institutions 2009–2012	2.3 Perception of fairness 1989–1995	2.3 Perception of fairness 1996–2003	2.3 Perception of fairness 2004–2008	2.3 Perception of fairness 2009–2012	Overall index for comparison 2009 – 2012
DK	1.76	0.27	0.68	0.92	1.64	1.81	0.33	1.75	1.61	1.22	2.64	1.93	2.03	1.32
NO	1.17	-0.25	0.27	0.02	0.19	1.4	1.97	1.43	1.69	1.13	1.36	0.81	1.64	1.16
CH	0.99	-0.7	-1.1	-0.34	0.55	0.97	-0.3	1.35	1.36	1.13	0.79	0.77	1.08	0.65
NZ	0.96	0.98	0.98	0.95	0.27	0.1	-1.18	0.3	0.8	1.13	1.13	1.59	1.82	0.89
CA	0.92	0.8	0.99	0.91	0.93	1.14	0.32	0.51	0.79	1.22	1.04	1.19	1.05	0.83
FI	0.89	-0.33	0.29	0.33	0.82	0.71	-0.01	1.67	1.31	1.22	0.78	1.88	0.55	1.05
AU	0.89	1.45	1.28	1.4	1.13	0.64	0.67	0.08	0.69	-0.06	1.04	0.84	0.85	0.88
SE	0.79	0.02	0.13	-0.07	-0.18	0.65	0.66	1.07	1.58	1.22	0.74	1.57	0.96	0.95
LU	0.68	-0.66	-0.09	-0.23	-0.24	1.28	1.43	1.54	1.38	1.22	0.71	0.54	0.9	0.62
US	0.52	1.67	1.22	1.05	0.84	0.68	0.28	-0.18	-0.04	0.75	0.75	0.36	0.76	0.82
AT	0.52	0.29	0.24	0.41	0.6	0.55	-0.03	0.8	0.69	-0.06	-0.14	0.42	0.26	0.52
CY	0.23	0.58	0.6	0.94	1.32	0.51	0.27	0.82	-0.33	-0.5	0.29	-0.3	-0.3	-0.77
IE	0.2	1.47	1.31	1.33	0.77	1.56	0.09	0.41	-0.26	-0.06	-0.32	0.03	0.1	0.54
DE	0	-1.82	-1.88	-1.8	-0.9	-0.02	-0.62	-0.31	0.58	0.04	0.48	-0.27	0.32	0.39
NL	-0.04	-1.91	-1.54	-2.15	-2.22	0.58	1.47	0.66	1	1.8	0.88	1.05	1.1	0.58
EE	-0.04	-0.82	-1.64	-0.5	0.01	-2.18	-0.64	-0.64	-0.03	-0.29	-0.75	-0.3	-0.1	-0.32
MT	-0.22	1.69	1.36	0.12	-0.37	0.05	1.57	0.43	0.21	-1.39	-0.26	-0.05	-0.49	-0.33
PL	-0.23	1.24	1.2	0.74	0.68	-1.34	-0.15	-1.01	-0.62	-0.63	-1.53	-1.21	-0.75	-0.33
FR	-0.26	-0.66	-0.38	-0.85	-0.48	0.11	0.07	0.2	0.11	0.24	-0.64	0.47	-0.4	-0.07
ES	-0.28	0.09	0.29	0.26	-0.69	-0.37	1.06	0.2	-0.23	0.06	0.24	0.08	0.08	-0.11
IL	-0.31	-0.32	0.08	-0.47	0.41	-0.57	-0.4	-0.75	-0.47	-0.06	-0.54	-0.71	-0.86	-0.77
GB	-0.31	-0.23	0.01	-1.44	-1.62	1.02	0.22	0	0.12	0.96	0.72	0.53	0.55	0.24
IT	-0.46	-0.35	-0.3	-0.86	-0.09	0.07	0.75	-0.74	-0.83	-2.03	0.11	-1.13	-0.46	-0.49
PT	-0.48	0.44	1.16	0.85	-0.06	-0.62	1.41	-0.02	-0.75	-0.24	0.64	-0.43	-0.64	-0.57
BG	-0.5	-1.3	-0.52	0.96	1.19	-0.53	0.27	-1.56	-1.33	-1.48	-1.8	-1.35	-1.38	-0.97
HU	-0.56	0.03	0.22	0.68	0.31	-0.28	-0.56	-0.86	-0.53	-0.6	-0.75	-1.26	-1.46	-0.53
GR	-0.62	1.53	0.96	1.59	0.89	-0.9	-1.83	-0.85	-1.52	-0.06	-1.31	-0.94	-1.22	-1.26
SL	-0.62	0.64	0.42	0.49	0.33	-0.52	-0.99	-0.27	-0.91	0.14	-0.93	-0.7	-1.29	-0.42
SK	-0.69	-1.1	-0.65	-0.96	-0.26	-1.16	-0.42	-1.04	-0.82	-1.67	-1.27	-1.39	-0.99	-0.65
BE	-0.75	-1.39	-1.58	-1.71	-2.92	-0.43	0.37	0.75	0.22	-0.2	-0.13	0.18	0.44	-0.2
LV	-0.86	0.27	-1.19	-0.28	-0.2	-2.11	-1.32	-1.46	-1.34	-0.86	-0.72	-0.97	-1.05	-0.97
CZ	-0.88	-1.47	-0.69	-1.52	-1.37	-0.87	-1.55	-0.97	-0.81	-0.69	-0.21	-0.59	-0.47	-0.47
LT	-1.2	-0.2	-2.04	-0.8	-0.52	-1.29	-1.04	-2.11	-1.7	-1.07	-1.76	-1.27	-1.37	-0.93
RO	-1.22	0.04	-0.1	-0.01	-0.78	-0.64	-2.17	-1.2	-1.62	-1.52	-1.1	-1.36	-1.26	-1.28

The figure shows the ranking for all countries, sorted according to the connectedness subindex in the current survey period, as well as the trend over time in the three related dimensions. For purposes of comparison, the overall index of social cohesion for the current survey period is shown the right.

Identification behaves as an atypical dimension of social cohesion: High scores on it guarantee by no means a high rating for social cohesion overall. Some of the Scandinavian countries (Norway and Sweden) rank no higher than the middle tier countries when it comes to identification. Cyprus, Greece, and Bulgaria are in the top group—the score for Bulgaria having increased dramatically—along with Australia, Canada, and Denmark. The lower half of the identification ranking includes the Western and Central European countries surrounding Germany and France. When countries were adversely affected by the euro crisis of 2010 and 2011, their citizens' identification changed in several ways. Identification has been declining in Ireland, Portugal, and Spain, but increasing or remaining at a high level in Greece, Italy, and Cyprus. As far as the absolute level of identification is concerned, averaged over all countries, trends in individual indicators show no striking changes between 1989 and 2012.

Rankings for trust in institutions are subject to frequent fluctuations, for which the recent financial crisis is a good explanation. E.g., while Ireland was hit hard by the banking crisis, Germany fared much better, and the diverging trajectories are clearly reflected in a downward trend (Ireland) and an upward trend (Germany), respectively, in trust in institutions. A look at the absolute values of individual indicators, averaged over all countries, shows a slight upward trend for trust in the police and the healthcare system, and a slight downward trend for trust in parliament and the judicial system. Trust in financial institutions is declining sharply: As recently as the middle of the first decade of this century, an average of 64 % of people trusted financial institutions. Today that number has dropped to 49 % (in Germany it has declined from 53 to 41 %). This is likely due to the role of the banking sector in triggering the economic and financial crisis.

Perceptions of fairness have fluctuated considerably in countries like Germany and France. In many other countries, this dimension tends to be quite stable. Bulgaria, Romania, and Slovakia, for example, are consistently in the bottom group, while Denmark, the Netherlands, and New Zealand rank consistently at the top. Scores for countries in the middle range, such as the United States and the United Kingdom, have also remained quite stable. In absolute terms, there is a slight upward trend in the percentage of people who believe that they receive fair pay for their work. In addition, more and more people wish that their government would do more to reduce the income gap—a response to the fact that income inequality has increased in many countries (OECD 2011). These trends can be observed for all countries.

3.3.3 Solidarity and Helpfulness, Respect for Social Rules, Civic Participation

Table 3.5 lists the countries based on their scores in the fourth period for the domain of focus on the common good. The other columns show trends over time in the three related dimensions: solidarity and helpfulness, respect for social rules, and civic participation, as well as the current overall index for comparison purposes.

Table 3.5 Scores on solidarity and helpfulness, respect for social rules, and civic participation over time

	Focus on the common good subindex 2009 – 2012	3.1 Solidary and helpfulness 1989–1995	1996–2003	2004–2008	2009–2012	3.2 Respect for social rules 1989–1995	1996–2003	2004–2008	2009–2012	3.3 Civic participation 1989–1995	1996–2003	2004–2008	2009–2012	Overall index for comparison 2009 – 2012
US	1.51	1.53	0.9	0.95	1.67	1.2	1.35	1.34	1.27	2.26	2.17	1.41	1.58	0.82
NO	1.19	0.53	-0.05	0.18	0.61	-0.07	0.17	0.78	0.97	0.48	1.71	1.67	2	1.16
NL	1.17	0.34	1.25	1.17	1.19	0.93	1.11	1.04	1.3	0.64	0.76	0.47	1.02	0.58
FI	1.02	0.95	-0.38	-0.19	0.57	1.22	0.81	1.45	0.89	-1.39	0.92	0.63	1.59	1.05
AT	0.92	1.74	2.06	1.18	0.84	1.19	1.26	1.97	1.35	-0.37	0.44	0.55	0.59	0.52
AU	0.91	-0.08	0.24	1.27	1.73	-0.11	0.41	0.45	0.48	1.81	0.14	1.38	0.52	0.88
SE	0.88	1.93	1.09	0.46	0.17	1.62	0.86	0.49	0.52	0.67	1.28	1.26	1.95	0.95
NZ	0.87	0.46	0.26	1.12	1.56	-0.71	1	0.5	0.68	0.07	1.03	1.62	0.36	0.89
CA	0.78	1.19	0.42	0.96	1.44	0.8	0.84	0.66	0.73	1.69	0.82	1.05	0.18	0.83
IE	0.77	0.13	0.38	1.06	1.84	0.37	0.57	0.06	0.61	-1.19	0.2	0.39	-0.13	0.54
DE	0.75	0.92	0.96	0.55	0.31	0.28	0.55	0.86	1.14	1.07	-0.02	0.5	0.81	0.39
DK	0.75	0.88	0.91	0.97	0.6	0.87	0.78	0.77	0.31	-0.01	0.11	1.05	1.35	1.32
LU	0.69	0.24	0.4	0.51	0.08	1.07	1.35	0.78	1.28	-0.25	0.13	0.69	0.71	0.62
CH	0.6	1.63	2.3	1.21	0.33	1.29	1.37	1.47	1.15	0.68	0.06	0.93	0.33	0.65
GB	0.51	-0.36	0.56	1.13	1.02	0.73	0.88	-0.23	0.39	0.58	-0.38	0.34	0.12	0.24
FR	0.2	0.95	1.18	-0.12	-0.75	0.62	0.86	0.1	0.78	-0.42	0.01	0.66	0.59	-0.07
BE	0.1	0.22	0.73	-0.06	-0.44	1.11	0.31	0.45	0.38	-1.01	0.43	0.47	0.37	-0.2
ES	-0.21	-1.43	-1.68	-0.84	-0.37	-0.13	-0.24	0.06	-0.27	-1.16	-0.66	-0.5	0	-0.11
MT	-0.22	-0.32	0.2	1.51	0.24	0.05	-0.09	-1.02	-0.82	0.07	1.95	-0.24	-0.08	-0.33
CZ	-0.41	0.2	-1.42	-0.64	-0.96	-0.96	-0.44	-0.71	0.39	0.53	-0.79	-0.56	-0.65	-0.47
SL	-0.41	-1.46	-0.18	-0.06	-0.51	0.59	-0.3	-0.72	-0.23	-1.27	-1.59	-0.51	-0.48	-0.42
IT	-0.51	-0.64	-0.91	-0.1	-0.26	-0.23	-0.85	-1.19	-0.99	-0.6	-0.67	-0.03	-0.27	-0.49
HU	-0.58	-1.44	-1.06	-1.17	-0.87	-0.98	-0.81	-0.6	-0.04	-1.15	-1.36	-1.36	-0.84	-0.53
SK	-0.59	-1.2	-1.38	-0.75	-1.14	-1.12	-0.86	-0.06	0.12	-0.38	-1.06	-0.64	-0.76	-0.65
CY	-0.67	-0.18	-0.36	-0.42	0.06	-0.77	-1.02	-1.48	-1.48	-0.2	0.3	-0.73	-0.6	-0.77
PL	-0.73	-0.58	-0.99	-0.59	-0.74	-1.21	-0.77	-0.55	-0.55	-0.34	-0.87	-1.14	-0.91	-0.33
IL	-0.74	-0.78	-0.89	0.47	-0.07	-0.19	-0.83	0.3	-1.51	-0.15	-0.61	-0.71	-0.64	-0.77
EE	-0.83	-0.63	-1.15	-1.46	-0.95	-1.22	-0.56	-0.42	-0.7	-0.19	-0.95	-0.98	-0.85	-0.32
LV	-0.99	-1.88	-1.36	-1.44	-1.01	-1.07	-1.12	-0.64	-0.63	0.49	1.08	-1.05	-1.33	-0.97
PT	-1	-0.05	0.03	-1.32	-0.73	0.44	0.03	-0.64	-1.27	-1.88	-1.32	-1.18	-1.01	-0.57
LT	-1.37	-1.11	-0.57	-1.62	-1.19	-1.16	-1.45	-0.95	-1.42	1.09	0.2	-1.33	-1.51	-0.93
RO	-1.4	-0.23	-0.18	-1.39	-1.1	-1.25	-1.78	-0.05	-1.6	-1.56	-1.37	-1.58	-1.49	-1.28
BG	-1.42	-0.5	-0.44	-1.35	-1.5	-2.51	-2.44	-2.66	-1.56	1.13	-1.09	-1.48	-1.2	-0.97
GR	-1.54	-0.94	-0.87	-1.21	-1.65	-0.68	-0.98	-1.62	-1.66	0.25	-1.02	-1.04	-1.31	-1.26

The figure shows the ranking for all countries, sorted according to the focus on the common good subindex in the current survey period, as well as the trend over time in the three related dimensions. For purposes of comparison, the overall index of social cohesion for the current survey period is shown the right.

As for solidarity and helpfulness, it is striking how dramatically Sweden and France have dropped in the relative rankings, while the United Kingdom has rapidly improved. Absolute changes in these indicators over the past 10 years show two fairly weak trends: The share of people who donate to charitable causes has slightly declined (from 45 to 44 % averaged over all countries), while the share of those reporting that they have helped a stranger has slightly increased (from 44 to 47 % averaged over all countries).

Respect for social rules has been a consistent strength of Western European countries like Switzerland, the Netherlands, and Austria, but also of the United States. Germany has moved into the top group and maintained this position. Several former Eastern Bloc countries have been experiencing a clear upward trend, particularly the Czech Republic, Slovakia, and Hungary; this reflects the success of these countries at establishing their new social order. The steepest decline can be found in Portugal. Based on the absolute numbers for the individual indicators, respect for social rules seems to be growing: The shadow economy accounts for a decreasing share of economic activity, and there is a slight increase in people's sense of safety on the streets.

For some countries, rankings for civic participation changed considerably between the first two survey periods and 2012; Finland, Ireland, and Belgium have gained ground, while Bulgaria, Latvia, and Lithuania have moved down in the rankings. In absolute terms, civic participation has slightly declined. Voter turnout and interest in politics have decreased, for example, while volunteer work for organizations remains at roughly the same level. Germany, for example, has not experienced the same negative trend; here the numbers have somewhat gone up.

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Chapter 4
Syndrome Character and Regimes of Social Cohesion

Abstract The first section of this chapter explores to what extent the nine dimensions empirically reflect the theoretically derived syndrome character of social cohesion. Factor analysis shows that eight of the nine dimensions belong to an underlying latent construct. A remnant of mechanic solidarity, identification is the only dimension that is empirically unrelated to the all-inclusive, universalistic character of social cohesion. The second section attempts to uncover distinct regimes of cohesion; these are groups of countries with similar strengths and weakness on the nine dimensions. Cluster analysis reveals six distinct country groups. The Nordic regime scores highest on most dimensions. It is outperformed by the regime of English-speaking and small Western European countries only in solidarity and helpfulness and respect for social rules. Slightly behind, yet above average on all dimensions but identification, is the Northwestern European regime. These three regimes can be regarded role models of strong cohesion. The remaining and underperforming distinct profiles are those of the Mediterranean and Eastern European countries, the Levantine regime, and the Southeastern European one.

Keywords Unidimensional model · Regimes of social cohesion · Groups of countries · Syndrome

This chapter deals with the associations among the nine dimensions of social cohesion. The first section explores whether the dimensions belong to a single underlying latent construct, thereby forming an empirically observable syndrome of cohesion in correspondence to the theoretical framework. The second section identifies regimes of social cohesion, i.e., groups of countries with similar strengths and weaknesses on the nine dimensions.

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4.1 Syndrome Character

The Social Cohesion Radar applies a hybrid reflective-formative index building framework. It measures the nine dimensions of cohesion as latent constructs of reflective indicators. The overall index of cohesion is, in contrast, a formative index calculated as the mean of the nine dimensions. According to the logic of the formative approach (Bollen and Lennox 1991), the nine dimensions are building blocks of the cohesion index, each of them contributing a unique facet to its measurement. Associational coherence among the components of a formative index is only a descriptive quality rather than a required criterion on its validity (Coltman et al. 2008). The theoretical framework as presented in Chap. 1 suffices to compile the nine dimensions into an index of social cohesion without any empirical assessment on the associations among them. Nevertheless, we investigate here whether social cohesion is a unified concept only on a conceptual level or also empirically. A strong indication for the latter is the emergence of a single (second-order) factor to which all nine dimensions belong.

The question on the syndrome character of cohesion has been posed by Green, Preston and Janmaat (2006). Using their own definition of cohesion with their own dimensions (which partially overlap with ours), the authors identify a syndrome of social and institutional trust, civic compliance, and (absence of) violent crime. Janmaat's (2011) approach deals with six of our dimensions, excluding social networks, perception of fairness, and solidarity and helpfulness, but adding shared values and equality. Applying this theoretical framework to predominantly World Values Survey data for 41 countries across the world (including Africa, Asia, and America), Janmaat finds two main dimensions—not one—of cohesion, solidarity and participation, accounting for 32 and 20 % of the variance, respectively. Janmaat concludes that the theoretical conceptions offered in the literature cannot be supported empirically, as the dimensionalization does not yield a *single* latent construct of social cohesion.

Employing our data, we test the syndrome character of the dimensionalization of cohesion proposed in this book with exploratory factor analysis on the nine dimensions. The number of underlying factors was fixed to one, thereby testing whether social cohesion is indeed a uni-factorial construct. The analyses were performed with the *R* function *factanal* and a maximum likelihood estimator. We explore the syndrome character in two ways: per time period, essentially performing four analyses, each on 34 countries; and across the four time periods in a pan-temporal analysis on 136 (4×34) country-by-wave observations. The rationale behind the pan-temporal analysis is to increase the number of cases, in analogy to the pan-temporal exploratory factor analyses for identifying dimension indicators. The results are presented in Table 4.1.

In each time period and in the pan-temporal analysis, all dimensions but identification have positive factor loadings above the threshold of 0.25 (Peterson 2000) on the extracted factor. In all instances the imposed uni-factorial solution accounts for about half to two-thirds of the common variance, with an increasing trend in

Table 4.1 Exploratory factor analyses on the syndrome character of social cohesion

		Pantemporal	1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012
1. Social relations						
	1.1 Social networks	0.88	0.87	0.86	0.95	0.80
	1.2 Trust in people	0.87	0.81	0.86	0.90	0.89
	1.3 Acceptance of diversity	0.60	0.60	0.68	0.64	0.49
2. Connectedness						
	2.1 Identification	0.04	0.04	0.15	0.01	0.02
	2.2 Trust in institutions	0.79	0.86	0.52	0.85	0.95
	2.3 Perception of fairness	0.88	0.80	0.85	0.93	0.94
3. Focus on the common good						
	3.1 Solidarity and helpfulness	0.74	0.75	0.69	0.79	0.76
	3.2 Respect for social rules	0.79	0.76	0.86	0.76	0.82
	3.3 Civic participation	0.71	0.30	0.65	0.93	0.92
	Number of cases	136	34	34	34	34
	Variance explained	55 %	49 %	51 %	64 %	61 %
	p value (Hyp.: 1 factor sufficient)	0.07	0.60	0.46	0.11	0.28

Factor analyses on the nine dimensions of social cohesion from the international comparison across all waves (pantemporal) and in each wave separately (w1 – w4). Each column displays the loadings of the dimensions of cohesion on the resultng unifactorial solution as computed with the R-function factanal, applying maximum likelihood estimation, as well as the number of cases, the amount of common variation in the dimensions explained by the factor, and the probability (p) that the requested unifactorial solution does not deviate from the best fitting one (hypothesis to be rejected if p < .05).

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later waves. In addition, significance tests suggest that the uni-factorial structure does not deviate significantly from that of best fit ($p > 0.05$), thereby representing the data sufficiently well.

Substantively, the analyses suggest that only one dimension, identification, does not belong empirically to the theoretically derived nine-dimensional concept of cohesion. This can mean that identification with one's country reflects Durkheim's (1977/1893) idea of mechanical solidarity: a type of social integration based on a collective conscience, attaching supreme value to the nation and its interests,

something that post-industrial democracies may no longer need in order to sustain social cohesion. In contrast to identification, the other eight dimensions tap into aspects of Durkheim's organic solidarity, which emphasizes individual dignity, equality of opportunity, and social justice. One may see this as strongly suggesting that there is a need to identify indicators that underlie an organic mode of identification with the geopolitical entity (here: the nation) in future measurement endeavors.

An examination across the time periods points to additional insights. In earlier waves, civic participation loads only moderately on the common factor, but the strength of the loading increases over time. This may be an effect of the post-communist transition. Immediately after the fall of the socialist regimes, civic participation was high in most transition countries (ten of our total sample of 34 countries are transition countries), while their social cohesion was rather weak across most other dimensions. Technically, this may have prevented civic participation from being identified as a core element of the empirically extracted factor in the early 1990s. Civic participation probably meant something different around the early 1990s in the post-communist societies. Later, levels of civic participation aligned more closely with other cohesion dimensions, turning participation into a stronger indicator of overall cohesion.

In contrast, the loading of acceptance of diversity on the common factor tends to become lower across time. Moreover, it is the weakest in the most recent time period compared to the rest of the dimensions. Considering that acceptance of diversity represents most clearly the inclusive type of social cohesion, this evidence could be taken as a warning light. Recent migration flows from poorer into wealthier countries generated a degree of public resentment for the idea of multiculturalism in societies that would otherwise be very tolerant and cohesive (Joppke 2007).

The data, thus, do not render full uni-dimensionality of our nine-fold characterization of social cohesion, but comes very close to it. Identification with one's country (generally) and acceptance of diversity (lately) are more likely than other dimensions to differ from the overall level of social cohesion. Particularly information about how strongly citizens identify with their country does not necessarily reveal the overall strength of social cohesion. However, if we know how resilient a country's social networks are, or how fair or unfair people perceive their societies to be, we get a good idea on the state of social cohesion in general. Norway and Sweden, for example, are in the top group for nearly every dimension, but in the middle group for citizens' identification with their country. Similarly, the Netherlands, Germany, and the UK are in the second tier for many of the dimensions, but citizenries' levels of identification are low—placing them in the bottom group. Conversely, countries with a relatively low overall score for cohesion may do well in certain areas: Portugal and Romania, for example, have a considerably higher score for acceptance of diversity than for most of the other dimensions—and they do better in this regard than many Western European countries. In Cyprus, Bulgaria, and Greece, people identify strongly with their country; they are in the top group for this dimension, despite generally low levels of cohesion.

Overall, our conceptualization seems to work very well on empirical grounds. Given that the concept was derived mainly on the basis of a literature review, the correspondence between theory and practice is noteworthy. Probable reasons are that (a) our sample is limited to Western democracies, and (b) in comparison to Janmaat's (2011) our concept is narrower and therefore more consistent, excluding, for example, contentious aspects like income inequality and value similarity.

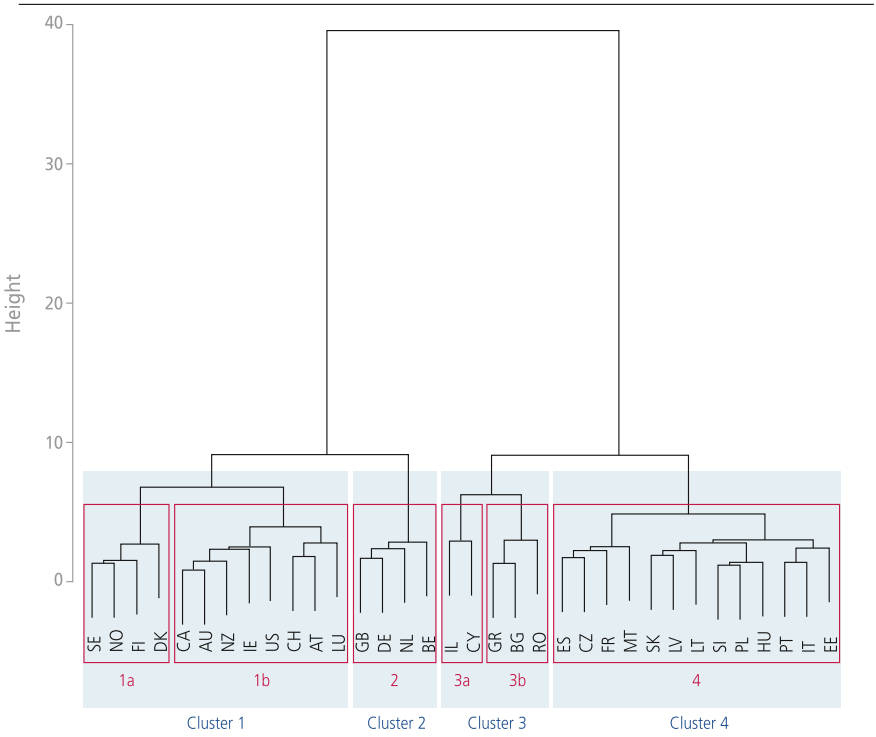
The empirical evidence presented here can help reassess the concept of cohesion and its constitutive elements. The main decision is whether to choose (and thereby demand), ultimately, a uni-factorial concept, or to accept a multi-factorial one. A uni-dimensional approach would either have to exclude identification or search for indicators that measure identification in a way that fits empirically well with all other dimensions. However, one should bear in mind that a uni-factorial solution would probably only explain about half to two-thirds of the variance of the theoretically derived dimensions. Moreover, it remains debatable whether uni-dimensionality is indeed required or even desirable. Multi-dimensionality may better reflect the complex nature of social cohesion and may better inform attempts to find distinct regimes of cohesion. As such, it comes as no surprise that many scholars advocate multi-dimensionality.

4.2 Regimes of Social Cohesion

In this section we explore so-called regimes of social cohesion (cf. Green and Janmaat 2011). These are essentially groups of countries with similar cohesion profiles in terms of common strengths and weakness on the nine dimensions. To identify regimes of cohesion we focus on the dimensions that make up the overall index, because two countries may have a similar score on the overall index, but still differ on several dimensions.

There have been previous attempts in this direction. For example, Dickes and Valentova (2013) identify several cohesion regimes based on predefined country sets. Green and Janmaat (2011) take an empirical approach with the help of hierarchical cluster analysis and identify three distinctive regimes: liberal, encompassing English-speaking countries; social democratic, encompassing the Nordic countries; and social market, encompassing Northwestern continental countries.

Following the approach of Green and Janmaat (2011), we perform hierarchical cluster analyses to identify groups of countries with similar dimension profiles. Distances between countries can be determined analogously to distances on a plane measured with a ruler and collected in a matrix. Based on this matrix of similarity we run a hierarchical cluster analysis with *R*'s function *hclust*. This method delivers a hierarchy of different divisions into clusters, starting with the stage, in which each country forms a cluster on its own. In each iterative step, cluster locations are compared and the ones closest to one another are joined to form a cluster at the next stage. The procedure delivers a chain of cluster solutions with 34, 33, 32, … 3, 2, and eventually 1 cluster(s), but as fewer clusters remain, they become more



Countries can be grouped into either four (blue) or six (red) regimes of cohesion (clusters of countries with similar profiles on the nine dimensions). The dendrogram shows a hierarchy of clustering by a chain of merges of the most similar countries as computed with the R-function hclust for hierarchical cluster analysis, applying Ward's criterion of minimal variance and the Euclidean distance matrix of country profiles. The y-axis represents the level of dissimilarity of the most dissimilar cluster. The two highlighted clusters (blue and red) were chosen at "natural" levels of dissimilarity, where the dissimilarity of the next level cluster is comparably large.

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Fig. 4.1 Dendrogram from hierarchical clustering of countries in Wave 4 (2009–2012)

heterogeneous internally (Cramer 2003). We use Ward's method of minimal variance to decide which clusters to combine. Large increases from one step to another, especially if they occur after and before a comparably small increase, indicate appropriate cut points. The clustering can be visualized in a dendrogram, which displays the various clusters as vertical lines on the *y*-axis (see Fig. 4.1). A higher value on this axis points to fewer, but more internally diverse, clusters. We derive clusters on two levels with respect to reasonable cut points: a fine-grained and a coarse-grained solution. In line with the method, the fine-grained clusters are subsets of the coarse-grained ones.

Given the transition processes in the countries of Central and Eastern Europe as well as their integration into the European Union, instability of the clusters over time can be expected. Therefore, we focus exclusively on the latest wave of the Social Cohesion Radar, 2009–2012. Results based on data from the three earlier waves are available in the Appendix, but are not discussed here.

Figure 4.1 shows the clustering dendrogram for the 34 countries in Wave 4 (2009–2012). The analysis points to a division into either four or six clusters, marked in blue and red boxes, respectively. The following two-level clustering emerges. Please note that the use of geographic or cultural labels is solely intended to characterize the core of a given cluster, thereby replacing generic labels.

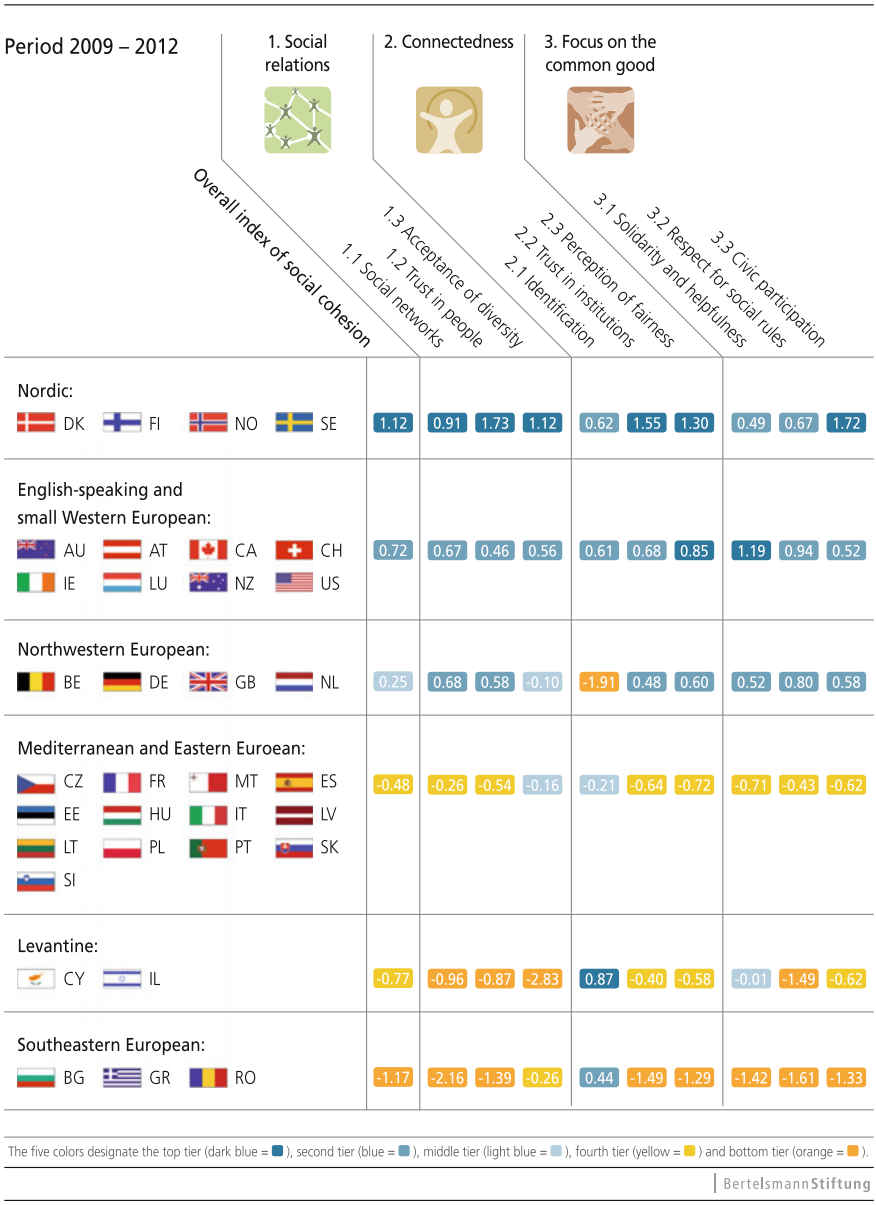
- **Cluster 1**
  - (a) Nordic: Denmark, Finland, Norway, Sweden
  - (b) English-speaking and small Western European: Australia, Austria, Canada, Ireland, Luxembourg, New Zealand, Switzerland, and the United States
- **Cluster 2**
  - (a) Northwestern European: Belgium, Germany, Netherlands, and the United Kingdom
- **Cluster 3**
  - (a) Levantine: Cyprus, Israel
  - (b) Southeastern European: Bulgaria, Greece, and Romania
- **Cluster 4**
  - (a) Mediterranean and Eastern European: Czech Republic, Estonia, France, Hungary, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Slovakia, Slovenia, and Spain

Table 4.2 presents the average overall cohesion scores as well as the dimension scores for the six-cluster solution. The clusters have been ranked with respect to their average score on the overall index of cohesion. The first three clusters can be regarded as ideal typical regimes of cohesion promoting a high level of togetherness in society. The Mediterranean and Eastern European regime is marked with less satisfactory outcomes. Finally, the Levantine and Southeastern European regimes produce the relatively weakest levels of social cohesion among the studied societies; both regimes heavily emphasize a strong level of national identification.

4.2.1 Nordic Regime

The unique feature of the Nordic regime (Denmark, Finland, Norway, and Sweden) is that it scores high and often highest on all dimensions of cohesion. In six of the nine cohesion dimensions, the Nordic countries belong to the top group. Particularly noteworthy are the strength of trust in fellow citizens—a phenomenon that has been labeled "Nordic exceptionalism" (Delhey and Newton 2005), and the degree of civic participation which is higher than the one in the cluster to which the English-speaking countries belong. The Nordic regime positions itself in the second tier with respect to the dimensions of identification,

Table 4.2 Average scores on dimensions and overall index for six regimes of cohesion



solidarity and helpfulness, and respect for social rules. Overall, the Nordic regime emerges as the "winner" in almost all aspects of social cohesion. This regime overlaps with the social democratic welfare regime (Esping-Andersen 1990).

4.2.2 English-Speaking and Small Western European Regime

The English-speaking societies of Australia, Canada, Ireland, New Zealand, and the United States (albeit without the United Kingdom) emerge in one cluster together with the small Western European societies of Austria, Luxembourg, and Switzerland.

This regime, on average, surpasses the Nordic one in terms of solidarity and helpfulness and respect for social rules. Another strength is the strong perception of fairness. The regime of English-speaking and small Western European countries ranks third on the dimensions social networks, trust in people, and civic participation. Particularly striking is that this regime does not exhibit the strongest level of acceptance of diversity, considering the long history of immigration and the very diverse ethnic composition of the societies that form it. On the overall index of cohesion, the regime of English-speaking and small Western European countries ranks second. Most of the countries from this regime have been classified by Esping-Andersen (1990) as belonging to the liberal welfare state model. This seems to explain the higher level of solidarity and helpfulness here: Caring for the vulnerable fellow citizens depends to a larger extent on civil society initiatives than on the generosity of the welfare state.

4.2.3 Northwestern European Regime

The cluster of Northwestern European countries includes Germany, Belgium, the Netherlands, and the United Kingdom. This regime of cohesion is characterized with upper mid-level scores on most dimensions. The countries in this cluster score higher than the Nordic countries on solidarity and helpfulness and respect for social rules. The dimensions social networks, trust in people, and civic participation obtain higher scores than in the regime of the English-speaking and small Western European countries. The weak spot of the Northwestern European regime is clearly identification: In no other regime do citizens identify so weakly with their country. The reasons are either historical (Germany), or related to strong regional tensions which threaten to tear the countries apart (Belgium, United Kingdom). The regime ranks in the middle tier on acceptance of diversity. This could be due to the fact that all four countries received massive waves of immigration over the past ten years that have stirred heated debates about immigration and multiculturalism—with growing popular suspicion that multiculturalism is doomed to fail (Joppke 2007). Overall, the Northwestern European regime emphasizes most clearly Durkheim's organic type of social integration, downplaying identification as an aspect of mechanic solidarity.

4.2.4 Mediterranean and Eastern European Regime

In the most recent time period (2009–2012) the Mediterranean countries of France, Italy, Malta, Portugal, and Spain form a common regime of cohesion together with the Eastern European countries of the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovakia, Slovenia, and Poland. The regime positions itself in the fourth tier both on the overall index of cohesion and on seven of the nine dimensions. It achieves ranks in the middle group only with respect to acceptance of diversity and identification. The mixed composition of the regime shows that different constellations of social forces tend to produce a similar outcome. On the one hand, there are the Eastern European countries that experienced a long process of transition from communism and a planned economy to democracy and a free market as well as an accession to the European Union in 2004. On the other hand, there are the Southern European countries with a longer history of EU membership, democratic institutions, and free market capitalism. These countries were, however, strongly affected by the recent financial crisis which seems to have pushed them to a common orbit with the Eastern European societies, at least with respect to the aspects of social cohesion.

4.2.5 Levantine Regime

Cyprus and Israel emerge in a cluster of their own, thereby forming a Levantine regime of social cohesion. The profile of cohesion in the Levantine regime can be characterized with the strongest level of identification. The positioning of the regime in the middle group on the dimension solidarity and helpfulness can be considered a second strength on the background of the relatively weak scores on the rest of the dimensions. The regime obtains a rank in the bottom group with respect to social networks, trust in people, acceptance of diversity, and respect for social rules. Particularly noteworthy is that acceptance of diversity is lowest in comparison to all other regimes. The dimensions trust in institutions, perception of fairness, and civic participation, as well as the overall index of cohesion exhibit scores that place the Levantine regime in the fourth group. Taken together, the Levantine regime seems to diverge from Durkheim's organic type of solidarity in the direction of the mechanic type.

4.2.6 Southeastern European Regime

The last identifiable regime of cohesion is that of the Southeastern European countries Bulgaria, Greece, and Romania. The Southeastern European regime can be characterized with a bottom-group ranking on the overall index of cohesion and

all dimensions but acceptance of diversity and identification. The regime positions itself in the fourth group with respect to acceptance of diversity and in the second group with respect to identification, which appears to be its only strength. The type of cohesion in this regime seems to be predominantly one of mechanic solidarity: attaching the highest value to the nation and practicing rather weak interdependence and mutual support among individuals and social groups.

The variety of regimes we find partially supports the particularistic perspective of Janmaat's (2011) that there are different paths to social cohesion. To a certain extent, the welfare regimes distinguished in Esping-Andersen's (1990) *Three Worlds of Welfare Capitalism* overlap with some of the regimes of cohesion: the social democratic (Nordic) and the liberal (English-speaking). Yet, the countries that Esping-Andersen classified into the Christian democratic welfare regime (Austria, Belgium, France, Germany, Italy, and Spain) appear scattered across several regimes of cohesion. In line with more recent research on welfare regimes that extends beyond Western OECD members (Fenger 2007), the majority of the post-communist countries belong to one regime of cohesion. Interestingly, our analyses render the Mediterranean countries of Italy, France, Malta, Portugal, and Spain in the same cluster with the post-communist countries. These South European countries have been strongly affected by the recent financial crisis, a development that could have brought them to the orbit of the Central and Eastern European transition countries. Two main conclusions can be drawn. First, different constellations of social forces tend to produce similar outcomes. This is evident from the mixed compositions of the regimes of the English-speaking and small Western European countries and that of the Mediterranean and South European countries. Furthermore, the English-speaking and small Western European regime achieves the second highest rank on the overall index of cohesion, only surpassed by the Nordic one. Second, the partial correspondence of the regimes of cohesion to the welfare state typology suggests that the welfare model leaves to a certain degree a mark on the profiles of cohesion. However, as we show in the next chapter, the welfare state, or its generosity at least, does not determine the degree of cohesion.

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Chapter 5
Macro-Level Causes and Effects of Social Cohesion

Abstract Which societal characteristics shape social cohesion, and which are shaped by cohesion? With this chapter the book switches to explanatory mode. We aim to find to what extent and in which direction cohesion correlates with theoretically informed macro-level characteristics. The latter have been grouped in seven thematic sets: wealth and economic situation; income inequality and the welfare state; demography; degree of modernization in social structures; diversity; culture and values; and subjective well-being. The analyses use time-lagged correlations, controlling for the level of national wealth: *earlier* measurements of the societal characteristics have been correlated with *later* measurements of the cohesion index (cohesion as outcome) and vice versa (cohesion as determinant). Among the strongest predictors of social cohesion are society's progress towards a knowledge economy, national affluence, and a small gap between the rich and the poor. Neither globalization nor migration has any effect on the degree of social cohesion. Cohesion, in turn, is particularly important for the happiness of nations in terms of life satisfaction, as well as for human development and lower unemployment. The chapter provides in addition the associations of the studied macro-level characteristics with each of the nine dimensions of social cohesion.

Keywords Social cohesion · Inequality · Migration · Life satisfaction · Poverty

We motivated the need for research on cohesion with the often-heard concerns among academics, politicians, and the wider public that secular trends such as the increasing ethno-cultural diversity through immigration, the widening gap between rich and poor, technological progress and welfare state retrenchments, as well as the recent financial crisis, weaken the social fabric of present-day societies. The previous chapters showed that these concerns are exaggerated. The level of social cohesion tends to be a rather stable societal characteristic, despite some fluctuations on certain dimensions. Still, cohesion is much stronger in some places than in others. This raises the question which conditions are conducive or detrimental to the social fabric of societies.

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Bertelsmann Stiftung's Social Cohesion Radar intentionally proposed a "lean" definition in order to facilitate an exploration of determinants and outcomes of cohesion. Such analyses expand the relevance of the Social Cohesion Radar to policy making. Coupling benchmarking of societies with insights on the possible reasons behind a particular outcome offers policy makers valuable expertise on how to improve cohesion.

In this chapter we seek for macro-level causes and effects of cohesion, considering both the overall index and the single dimensions. In addition, we run a "horse race" among the empirically supported determinants in order to find out which have the strongest impact. Another relevant question would be whether *changes* in macro-level characteristics result in *changes* in cohesion levels or vice versa. Unfortunately, the latter question must remain unanswered in this book due to the low number of cases (n = 34) compared to the number of parameters to be estimated in a latent growth model of four waves. The relative nature of the cohesion scores is a further obstacle to the pursuit of the "change" question.

5.1 Determinants and Outcomes of the Overall Index

Which societal characteristics shape social cohesion, and which are shaped by cohesion? To quote on Beauvais and Jenson (2002, p. 2), "There is no unanimous position on whether social cohesion is a cause or a consequence of other aspects of social, economic and political life. For some analysts and policy-makers, the condition of social cohesion in any polity is an independent variable, generating outcomes. For others, social cohesion (or the lack thereof) is the dependent variable, the result of actions in one or more realms."

We work with seven thematic sets of relevant societal characteristics: wealth and economic situation; income inequality and the welfare state; demography; degree of modernization in social structures; diversity; culture and values; and subjective well-being.

The analyses use time-lagged correlations,[1] controlling for the level of wealth (GDP per capita), because many country characteristics go hand in hand with national income. "Time-lagged" means that *earlier* measurements of the societal characteristics in question have been correlated with *later* measurements of the overall cohesion index. For example, we investigate the extent to which the levels of human development (controlling for GDP p.c.) from Waves 1, 2, and 3 correspond to the levels of social cohesion in Waves 2, 3, and 4, respectively. Subsequently, we correlate earlier scores of the overall cohesion index (Waves 1, 2, and 3) with later levels of human development (Waves 2, 3, and 4, respectively),

[1]Under ideal circumstances, we would pursue these questions with cross-lagged models in a structural equation modelling framework (Kline 2005). This, however, is not possible due to the low number of cases, 34, in an estimation of 32 parameters involving four waves.

again controlling for GDP in the measurement periods of cohesion. Despite being correlational in nature, this time-lagged analytical framework increases the plausibility of attributing causality in either direction, allowing us to infer whether a given societal characteristic is a cause or an effect of social cohesion. Moreover, rather than studying a time-lagged pair of waves separately, we include all three possible time-lagged pairs of waves in one analysis. Taking country-by-period observations to be independent units of analysis is not a novel practice in the social sciences (e.g., Rözer and Kraaykamp 2013). The advantage is an increase in sample size and variability in the measures. Thus, we work with a maximum of 102 observations (3 waves by 34 countries).

The analyses have been performed in the structural equations module of Stata 12 (StataCorp 2011). We apply full-information maximum likelihood which is particularly powerful in dealing with missing data (Enders 2010). More details on the pairing and the raw number of country-wave units are available in Table A.14 of the Appendix. This table provides also the bivariate correlations in which GDP has not been partialled out. Below we refer exclusively to the results of the partial correlation tests that take GDP p.c. into account. This evidence is presented in Table 5.1.

5.1.1 Wealth and Economic Situation

One would expect wealthy societies with thriving economies and greater resources to be more successful at promoting social cohesion. We find a strong and highly significant positive association of GDP p.c. with the level of social cohesion in a later wave ($r = 0.75$, $p < 0.01$). The same holds in the opposite direction: Social cohesion in an earlier period shows a strong positive and highly significant correlation with GDP in a later period ($r = 0.78$, $p < 0.01$). These results point to a causal loop. Wealthier societies are indeed more cohesive, but at the same time, more cohesive societies appear to be more productive.

Does a broader interpretation of wealth, like that used in the HDI (economic prosperity, education, and health), reveal more about social cohesion? The level of human development in an earlier wave does not exhibit a significant association with the strength of social cohesion in a later wave, irrespective of GDP, thus considering only education and health. In fact, it is the degree of social cohesion in an earlier period that correlates positively and significantly with human development at a later stage in time ($r = 0.29$, $p < 0.01$). Social cohesion is thus instrumental for human progress.

Unemployment yields similar results. Whereas earlier unemployment rates do not influence later cohesion, social cohesion influences unemployment ($r = -0.28$, $p < 0.01$) in such a way that there are fewer unemployed people in more cohesive societies.

Obviously, a cohesive society goes hand-in-hand with a flourishing and inclusive economy.

Table 5.1 Partial correlations between overall index of cohesion and country characteristics

	Variable with Cohesion in Later Wave r	Cohesion with Variable in Later Wave r	Data source
Wealth and economic situation			
Gross domestc product (ln)[1]	0.75 ***	0.78 ***	(World Bank, 2012)
Human Development Index	0.10	0.29 ***	(UNDP, 2013b)
Unemployment rate	-0.01	-0.28 ***	(World Bank, 2012)
Inequality and welfare state			
Income inequality	-0.29 ***	-0.15	(Solt, 2009)
Poverty rate	-0.18 *	-0.09	(Eurostat, 2014)
Strength of the welfare state	0.14	-0.01	(OECD, 2012)
Demography			
Population density	-0.14	-0.12	(World Bank, 2012)
Age dependency ratio	0.20 **	0.16 *	(World Bank, 2012)
Modernization of social structures			
Knowledge Index	0.65 ***	0.54 ***	(World Bank, 2012)
KOF Index of globalization	0.04	0.09	(Dreher, Gaston, & Martens, 2008)
Diversity			
Percentage of immigrants	-0.04	-0.02	(UN, 2013)
Culture and values			
Percentage of religious people	-0.25 ***	-0.20 *	(WVS, 2009; 2015)
Strength of post-materialist values	0.36 ***	0.29 ***	(WVS, 2009; 2015)
Strength of materialist values	-0.46 ***	-0.40 ***	(WVS, 2009; 2015)
Subjectve well-being			
Life satisfaction	0.44 ***	0.53 ***	(GWP, 2013)

The table shows the partial correlation coefficient r after adjustment for gross domestic product. Significance of the correlations in the case of two-sided tests: *** $p \leq .01$, ** $p \leq .05$, * $p \leq .10$.

[1] Presented correlations for GDP are only bivariate.

5.1.2 Income Inequality and the Welfare State

An unequal distribution of income can be expected to weaken cohesion, since inequality leads to conflicting interests and polarization (cf. Rothstein and Uslaner 2005; Uslaner 2002). In our data, the level of income inequality (Gini coefficient) in an earlier period is significantly and negatively related to social cohesion in a later period ($r = -0.29$, $p < 0.01$). Cohesion does not influence later levels of inequality, unlike unemployment. It seems, therefore, that gaping inequalities undermine cohesion, but social cohesion alone does not suffice to make society more equal. Our findings support the notion that equality leads to social well-being, as argued by Wilkinson and Pickett (2010) in their bestselling book, *The Spirit Level*.

A weaker negative effect holds for the poverty rate (60 % median income poverty line). Societies with a higher percentage of poor people in an earlier wave have lower levels of social cohesion in a later wave ($r = -0.18$, $p < 0.10$). Conversely, earlier social cohesion does not correlate with later poverty rates.

We find no evidence that the generosity of the welfare state (measured as welfare expenditures as a percentage of GDP) influences cohesion. Thus, we can neither support claims that a generous welfare state promotes cohesion nor substantiate arguments on a crowding-out effect (Van Oorschot et al. 2005) of welfare state activities on cohesion. There is also no evidence for an influence of social cohesion on welfare state expenditure ($r = -0.01$). It thus seems that institutional (formal) and interpersonal (informal) mechanisms of social support largely operate independently from one another.

5.1.3 Demographics

Turning to demographics, we focus first on population density, which is associated with social cohesion both as a cause and an effect. However, these associations are statistically insignificant.

Another demographic characteristic is age dependency, which captures the ratio of people of age 65 and above to those between 15 and 64 years of age. We find a weak but significant positive association with later cohesion ($r = 0.20$, $p < 0.05$). One could infer that the elderly contribute to cohesive bonds in our international sample of 34 societies, perhaps because they have time for activities such as civic engagement. Since it is difficult to argue that social cohesion influences the age structure, we refrain from further interpretations of the cohesion-age dependency link.

5.1.4 Structural Modernization

An often-heard argument in the public discussion is that modernization tends to weaken a society's socio-moral resources, and thus also social cohesion. While new technologies and international networks make societies more efficient, they also deprive them of a basis for solidarity.

The World Bank's Knowledge Index (World Bank 2012) shows how far countries have come toward achieving a knowledge society. This index compiles information on the educational level, economic innovation and infrastructure related to information and communications technology. Contrary to the argument referred to above, the correlation is not negative, but clearly positive. The most innovative societies are precisely the ones in which social cohesion is in later years stronger ($r = 0.65$, $p < 0.01$). Technological modernization is more likely to strengthen than to weaken social cohesion, over and above the positive effect of national affluence. In turn, cohesion positively influences a country's score on the Knowledge Index ($r = 0.54$, $p < 0.01$). It thus appears that progress in education, innovation, and communication technologies strengthens cohesion, but also that more cohesive societies manage to make greater advances towards a knowledge economy.

Additionally, we investigate globalization, operationalized as the KOF Index of Globalization (Dreher et al. 2008). It is a composite index of various indicators from the economic, social, and political domains of globalization. Our extended analyses here do not find any effects between globalization and social cohesion in either direction.

5.1.5 Diversity

Is an ethnically mixed society less cohesive? A recent literature review by Van der Meer and Tolsma (2014) points to numerous studies that picked on Putnam's (2007) *E Pluribus Unum*, in which he points to the negative consequences of ethnic heterogeneity and immigration to the social capital aspects of social cohesion. Van der Meer and Tolsma show that the results of these studies are by and large inconclusive: 26 of them find empirical support for negative effects of ethnic diversity on social cohesion, 39 have mixed results, whereas 25 reject this thesis. The authors conclude that ethnic heterogeneity adversely affects primarily neighborhood interactions and mostly so in the US, whereas generalized trust, informal help, volunteering or other attitudes and behavior oriented towards the common good remain unaffected, particularly in Europe.

Our data points to the absence of any statistically significant correlation between immigration (percentage of migrants) and social cohesion in a later wave ($r = 0.02$). Immigration thus is not a threat to social cohesion. Neither do more cohesive societies deter or attract migrants ($r = -0.02$). This evidence fully corresponds with the thesis of Uslaner (2012) that the degree of diversity per se is

irrelevant for cohesion. It is rather inequality and segregation, not diversity as such, that threatens the social fabric of our present-day societies.

5.1.6 Culture and Values

Another widespread assumption is that cohesion is largely dependent on cultural and moral resources, and requires a stable framework of values. Since religion is often believed to provide such a framework, we might expect the fabric of social cohesion to be particularly strong in societies where religion plays an important role. The data give reasons for doubt. There is a negative correlation between the percentage of religious individuals and social cohesion in a later wave: The higher the percentage of people who describe themselves as religious, the lower a country's level of social cohesion ($r = -0.25$, $p < 0.01$). The evidence points further to a weakening negative effect of social cohesion on later religiosity: More cohesive societies tend to later be less religious ($r = -0.20$, $p < 0.10$).

We might also expect that a society's values would make a difference. There are various approaches to studying values. Here we examine the strength of post-materialist and materialist values along the lines of earlier formulations of the value change theory (Inglehart 1997). We found a moderately strong and significant association between post-materialism and later cohesion ($r = 0.36$, $p < 0.01$) and a weak but significant association between earlier cohesion and later post-materialism ($r = 0.29$, $p < 0.01$). This is consistent with Inglehart's idea that an emphasis on post-materialism goes hand in hand with a heightened concern for quality of life and well-being.

In line with these findings, materialist orientations present us with the mirror image of post-materialist values. A stronger preference for materialism weakens later cohesion ($r = -0.46, p < 0.01$). At the same time, higher levels of cohesion predict weaker preferences for materialist values in the next time period ($r = -0.40, p < 0.01$).

Since for both post-materialism and materialism the link from values to cohesion is stronger than the link from cohesion to values, we regard post-materialism (or weaker materialism) as a crucial cultural condition for a cohesive society (over and above the effect of national income). We address this question in more detail when we turn to the relationship between social cohesion and individual-level value preferences in Chap. 6.

5.1.7 Subjective Well-Being

Finally, we tested for a causal loop between life satisfaction, as the key measure of subjective well-being (Veenhoven 2010), and social cohesion. The evidence suggests associations in both directions. Considering that the partial correlation coefficient is larger for the association between earlier cohesion and later life

satisfaction ($r = 0.53$, $p < 0.01$), we can conclude that social cohesion does indeed translate into average happiness. The relation between cohesion and life satisfaction is discussed in detail in Chap. 6.

In summary, it appears that societal affluence, a small gap between the rich and the poor, a low poverty rate, progress towards a knowledge economy, a secular culture, and a value climate of post-materialism are conditions conducive to social cohesion. In contrast, neither globalization nor migration have any effect on the degree of social cohesion, despite the prominence of these claims in the public discourse. Furthermore, we found social cohesion to be conducive to the nations' economic affluence, human development, lower unemployment rates, progress towards a knowledge economy, and life satisfaction. In the cultural realm, strong cohesion seems to feed into collective preferences for post-materialist values and secularism. Finally, there is no evidence that cohesive societies attract or deter migrants.

5.2 Determinants and Outcomes of the Single Dimensions

The section above discussed the effects of several macro-level characteristics from seven thematic sets on the overall index of cohesion. However, in Chap. 4 we showed that not all of the nine dimensions correlate very strongly among each other. This is most notable in the case of Dimension 2.1, identification. We therefore set out to check for the effects of the characteristics on each of the nine dimensions separately. The analyses follow the same logic as with the overall index of cohesion. Evidence from the time-lagged partial correlations, controlling for GDP per capita, is summarized in Tables 5.2, 5.3, and 5.4. Bivariate correlations are given in Tables A.15, A.16, and A.17 of the Appendix. Below we refer exclusively to the partial correlation tests. Relationships between single cohesion dimensions and context variables have been highlighted when correlations for cause and effect differ by more than 0.20 and are significant for at least one of the causal directions. In these cases it seems reasonable to assume that there is indeed a causal relationship between a context variable and a dimension of cohesion, and not just a covariation whose origin is difficult to determine.

5.2.1 Wealth and Economic Situation

Regarding the relationship between the single dimensions of social cohesion and indicators of prosperity, the most important finding seems to be the following: The level of identification neither affects nor is affected by economic prosperity. Essentially, the extent to which people identify with their country has nothing to do with the country's wealth. The wealth of a country as measured with the Gross Domestic Product per capita influences civic participation more strongly than civic participation influences later GDP. The wealthier a society is, the more its members

Table 5.2 Partial correlations for Domain 1, Social relations

	Dimension 1.1 – Social Networks		Dimension 1.2 – Trust in People		Dimension 1.3 – Acceptance of Diversity	
	V -> D	D -> V	V -> D	D -> V	V -> D	D -> V
Wealth and economic situation						
Gross domestc product (ln)[1]	0.69 ***	0.73 ***	0.57 ***	0.57 ***	0.43 ***	0.51 ***
Human Development Index	0.19 **	0.46 ***	0.23 **	0.41 ***	-0.02	0.09
Unemployment rate	0.18 *	-0.19 **	0.04	-0.15	0.03	0.01
Inequality and welfare state						
Income inequality	-0.29 ***	-0.10	-0.33 ***	-0.29 ***	-0.07	-0.19 *
Poverty rate	-0.17	0.02	-0.31 ***	-0.25 ***	-0.22 **	-0.22 **
Strength of the welfare state	0.16	-0.08	0.27 ***	0.07	0.07	0.15
Demography						
Population density	-0.12	-0.20 **	-0.19 **	-0.19 **	-0.28 ***	-0.24 ***
Age dependency ratio	0.27 ***	0.35 ***	0.33 ***	0.31 ***	-0.22 **	-0.20 **
Modernization of social structures						
Knowledge Index	0.68 ***	0.53 ***	0.73 ***	0.66 ***	0.27 ***	0.26 **
KOF Index of globalization	0.07	0.03	0.16 *	0.21 **	0.21 **	0.28 ***
Diversity						
Percentage of immigrants	0.05	0.05	-0.01	-0.05	-0.26 ***	-0.26 ***
Culture and values						
Percentage of religious people	-0.34 ***	-0.30 ***	-0.42 ***	-0.37 ***	-0.26 **	-0.39 ***
Strength of postmaterialist values	0.32 ***	0.26 **	0.25 ***	0.20 *	0.24 **	0.31 ***
Strength of materialist values	-0.48 ***	-0.37 ***	-0.47 ***	-0.38 ***	-0.24 **	-0.23 *
Subjectve well-being						
Life satisfaction	0.39 ***	0.52 ***	0.57 ***	0.55 ***	-0.02	0.03

The table shows the partal correlation coeficient r after adjustment for gross domestic product. Significance of the correlations in the case of two-sided tests:
*** $p \leq .01$, ** $p \leq .05$, * $p \leq .10$.
[1] Presented correlations for GDP are only bivariate.
V -> D denotes that the variable to the left has been correlated with the pertinent dimension of cohesion in a later wave.
Alternatively, D -> V denotes that the pertinent dimension of cohesion has been correlated with the variable to the left in a later wave.

are involved in social and political life; the reverse effect also exists, but is considerably weaker. As for the remaining dimensions of cohesion, we find feedback loops that resemble those found on the overall index of cohesion.

Table 5.3 Partial correlations for Domain 2, Connectedness

	Dimension 2.1 – Identification		Dimension 2.2 – Trust in Institutions		Dimension 2.3 – Perception of Fairness	
	V -> D	D -> V	V -> D	D -> V	V -> D	D -> V
Wealth and economic situation						
Gross domestc product (ln)[1]	0.04	0.05	0.67 ***	0.69 ***	0.70 ***	0.69 ***
Human Development Index	0.03	0.01	-0.20 **	-0.16 *	0.06	0.23 ***
Unemployment rate	-0.03	0.00	0.06	-0.26 ***	-0.12	-0.27 ***
Inequality and welfare state						
Income inequality	0.16	0.27 **	-0.40 ***	-0.19	-0.24 ***	-0.09
Poverty rate	0.31 ***	0.38 ***	-0.38 ***	-0.21 **	-0.18 *	-0.11
Strength of the welfare state	-0.23 **	-0.21 **	0.24 **	0.10	0.10	0.02
Demography						
Population density	-0.23 **	-0.11	0.16 *	0.16 *	-0.11	-0.16
Age dependency ratio	0.03	-0.10	0.19 **	0.03	0.18 *	0.22 **
Modernization of social structures						
Knowledge Index	0.00	-0.10	0.25 ***	-0.01	0.56 ***	0.51 ***
KOF Index of globalization	-0.09	-0.19 **	-0.04	0.13	0.05	0.13
Diversity						
Percentage of immigrants	-0.01	0.02	-0.06	-0.15	0.00	0.09
Culture and values						
Percentage of religious people	0.40 ***	0.37 ***	-0.24 ***	0.02	-0.27 ***	-0.31 ***
Strength of postmaterialist values	-0.11	-0.05	0.13	-0.11	0.31 ***	0.20 *
Strength of materialist values	0.11	0.00	-0.15	0.05	-0.41 ***	-0.36 ***
Subjectve well-being						
Life satisfaction	-0.01	-0.03	0.35 ***	0.09	0.53 ***	0.51 ***

The table shows the partial correlation coefficient r after adjustment for gross domestic product. Significance of the correlations in the case of two-sided tests: *** $p \leq .01$, ** $p \leq .05$, * $p \leq .10$.

[1] Presented correlations for GDP are only bivariate.

V -> D denotes that the variable to the left has been correlated with the pertinent dimension of cohesion in a later wave.

Alternatively, D -> V denotes that the pertinent dimension of cohesion has been correlated with the variable to the left in a later wave.

There appears to be a greater likelihood of social networks facilitating human development (as measured through the HDI) than of the HDI affecting social networks. Thus, strong social networks in a society foster that society's development.

Table 5.4 Partial correlations for Domain 3, Focus on the common good

	Dimension 3.1 – Solidarity and Helpfulness		Dimension 3.2 – Respect for Social Rules		Dimension 3.3 – Civic Participation	
	V -> D	D -> V	V -> D	D -> V	V -> D	D -> V
Wealth and economic situation						
Gross domestc product (ln)[1]	0.65 ***	0.62 ***	0.70 ***	0.77 ***	0.65 ***	0.45 ***
Human Development Index	0.08	0.12	0.01	0.14	0.21 **	0.28 ***
Unemployment rate	-0.22 **	-0.38 ***	-0.03	-0.21 **	0.07	-0.12
Inequality and welfare state						
Income inequality	-0.06	-0.22 *	-0.26 ***	-0.14	-0.3 ***	0.08
Poverty rate	0.20	-0.14	-0.32 ***	-0.13	-0.22 *	0.10
Strength of the welfare state	-0.08	0.08	0.13	0.06	0.35 ***	-0.19 *
Demography						
Population density	0.17 *	0.14	-0.13	-0.04	0.01	0.02
Age dependency ratio	0.08	0.11	0.05	0.08	0.32 ***	0.15
Modernization of social structures						
Knowledge Index	0.36 ***	0.23 **	0.50 ***	0.42 ***	0.45 ***	0.23 **
KOF Index of globalization	-0.10	0.10	0.13	0.16 *	-0.15	-0.26 ***
Diversity						
Percentage of immigrants	0.08	0.02	0.06	0.05	0.00	0.14
Culture and values						
Percentage of religious people	-0.01	-0.04	-0.16	-0.07	-0.29 ***	-0.16
Strength of postmaterialist values	0.36 ***	0.28 ***	0.32 ***	0.30 ***	0.31 ***	0.16
Strength of materialist values	-0.35 ***	-0.21 ***	-0.29 ***	-0.32 ***	-0.39 ***	-0.21 **
Subjectve well-being						
Life satisfaction	0.45 ***	0.37 ***	0.08	0.50 ***	0.38 ***	0.46 ***

The table shows the partial correlation coefficient r after adjustment for gross domestic product. Significance of the correlations in the case of two-sided tests: *** p ≤ .01, ** p ≤ .05, * p ≤ .10.

[1] Presented correlations for GDP are only bivariate.

V -> D denotes that the variable to the left has been correlated with the pertinent dimension of cohesion in a later wave.

Alternatively, D -> V denotes that the pertinent dimension of cohesion has been correlated with the variable to the left in a later wave.

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A weaker indication of the same causal direction was found for trust in people and perception of fairness. Evidence for the dimension affecting human development was found in both cases, though less strongly than for social networks. Feedback

loops are evident for trust in institutions (negative), and civic participation (positive). These findings seem to suggest that higher education levels (as captured in part by the Human Development Index) may attenuate trust in institutions while fostering civic participation.

The dimensions are associated with the unemployment rate in a similar way. Low trust in institutions is associated with a subsequent rise in unemployment. It is difficult to describe the causal mechanism behind this finding, which would merit further study. A similar but somewhat weaker effect can be found for respect for social rules, perception of fairness, and solidarity and helpfulness. In all three cases, low scores for the dimension predict higher later unemployment rates. Of particular interest is the feedback loop exhibited by social networks: A high unemployment rate in an earlier wave *positively* impacts the quality of the social networks in a later wave, while lower unemployment in a later wave is a consequence of intact social networks.

The associations described above demonstrate that the various dimensions of cohesion are mostly affected by wealth and economic indicators (identification is the exception to this pattern). The associations observed for the single dimensions correspond with the associations between the same characteristics and the overall cohesion index.

The most interesting result is that unemployment seems to activate social networks and that this activation is beneficial: Intact social networks precede lower unemployment rates.

5.2.2 Income Inequality and the Welfare State

The extent of income inequality negatively affects social networks, trust in institutions, perception of fairness, respect for social rules, and civic participation, but only in the case of trust in institutions is the difference in the direction of causation sizable enough to assume an actual character of cause-and-effect. Income inequality impacts trust in institutions much more strongly than vice versa. As to the opposite causal direction, we find that a higher acceptance of diversity and a stronger feeling of solidarity tend to reduce gaping inequalities. The intensity of the effects underscoring this causal direction is, however, not overly high. It is only the feeling of identifying strongly with the nation that shows tendencies towards increasing inequality. This finding, which would merit more research in the future, may be an indication that strong identification with one's nation goes hand in hand with a higher acceptance of inequality and, consequently, with greater actual economic inequality within a nation. A feedback loop can be detected for trust in people: Lower levels of income inequality promote higher levels of trust, and higher levels of trust reduce income inequality. The direction of association between income inequality and solidarity and helpfulness is quite straightforward: A more solidary society is likely to have more monetary transfers among its members, especially

from resource-rich groups toward resource-poorer groups, and this may well create more equal opportunities for lowering income inequality within the society.

Similar evidence emerges for the effects of poverty on the dimensions. Poorer societies tend to place less trust in institutions, perceive less fairness, show lower respect for social rules, and exhibit less active participation in social and political life. We found negative feedback effects in the case of trust in people and acceptance of diversity: Higher poverty rates compromise interpersonal trust and people's tolerance for different lifestyles, but it is interesting to note that higher levels of interpersonal trust and more tolerance towards diversity tend to reduce poverty rates. Conversely, there is a positive feedback loop with identification: Higher poverty rates strengthen identification with the nation, and high levels of identification promote poverty. This latter association echoes the tendencies of far-right, nationalist parties to be particularly successful in less economically prosperous regions.

Turning now to the strength of the welfare state, which did not correlate with the overall index of cohesion, we find that it promotes trust in people and trust in institutions as well as civic participation. An asymmetric feedback loop can be observed with identification: More generous welfare systems tend to undermine people's identification with their country, but a higher level of identification seems to be prevalent in less generous welfare regimes. More research is needed to disentangle this effect.

Overall, the links with the overall cohesion index can also be observed with the dimensions: Income inequality and poverty are, in the majority of cases, determinants of cohesion. Likewise, welfare state expenditure is a determinant rather than an outcome of cohesion.

The most important finding in the sphere of inequality, poverty, and social welfare is that income inequality seems to reduce trust in institutions.

5.2.3 Demographics

Population density appears to have a negative effect on identification: In more densely populated societies, identification with the country tends to be lower. Given that more densely populated areas are typically cities hosting an array of lifestyles, metropolitanism, and cosmopolitanism, it seems only logical that identification with one's nation is weaker in such places than in other, less populated regions. A positive effect can be detected for solidarity and helpfulness: People in more densely populated countries seem to have greater solidarity with each other. As solidarity presupposes a hypothetical expectation of reciprocity in the future, it can be seen as a strategy for living in densely populated environments. The results show that this characteristic is influenced negatively by social networks. Where people's networks are stronger, population density is lower. Feedback loops are found with trust in people (negative), perception of fairness (negative), and trust in institutions (positive).

As to age dependency, the evidence shows that it increases trust in institutions and civic participation. Feedback loops are found with social networks (positive), trust in people (positive), acceptance of diversity (negative), and perception of fairness (positive).

These associations are slightly different from what we observe for the overall cohesion score. Population density has no effect on the overall index, but some weak to moderate correlations with the dimensions. In case of the age dependency ratio, the associations with the dimensions reflect the associations with the overall cohesion index.

In summary, none of the findings in the sphere of demographic indicators speak for a clear-cut cause-and-effect relationship between demography and social cohesion.

5.2.4 Structural Modernization

The progress of society towards a knowledge economy, as measured with the Knowledge Index, promotes social networks, trust in institutions, solidarity and helpfulness, and civic participation. Positive feedback loops exist for trust in people, acceptance of diversity, perception of fairness, and respect for social rules. What is clear is that none of the dimensions are strong predictors of a knowledge economy: Without a single exception, correlations between earlier scores on the Knowledge Index and a dimension of social cohesion are higher than the reverse correlations.

There is no clear evidence that globalization, as measured with the KOF Index of Globalization, influences any of the dimensions of cohesion. Actually, it appears that identification and civic participation reduce globalization, whereas respect for social rules stimulates it. The first association can once again be interpreted in a straightforward manner: Higher identification with the nation suggests lower transnational transfers. Positive feedback loops are found with trust in people and acceptance of diversity.

The links that we identify between the dimensions and indicators of structural modernization have added insights to our initial conclusion that these dimensions and indicators are associated with the overall cohesion index. The Knowledge Index can be considered a predictor of some dimensions (there is no overall feedback effect), and the KOF Index, while exhibiting no effect on the overall index, does have some relevance to selected dimensions.

The finding that high scores on the Knowledge Index (a comprehensive measure of a country's level of innovation, education, and quality of information and communication technology) are likely to serve as a cause for a high trust in institutions can be singled out as the most important finding in the sphere of modernization indicators.

5.2.5 Diversity

The percentage of migrants in a society does not influence any other dimension of cohesion with the exception of acceptance of diversity. The evidence suggests that societies with a higher share of non-citizen migrants tend to be less tolerant of diversity later on. However, there is a feedback effect of the same magnitude: More tolerant societies tend to have a lower percentage of migrants. While this appears odd at first sight, it may indicate that immigrants acquire citizenship in their host countries more quickly, if the host society is more tolerant. We can generally conclude that migration is not a threat to the social fabric of societies, neither in relation to the overall index nor in relation to the dimensions of social cohesion.

Even in light of the negative correlation between the percentage of migrants and acceptance of diversity, the most important finding clearly is the "non-result," namely that the percentage of immigrants in a country is unrelated to the quality of social cohesion in that country.

5.2.6 Culture and Values

The correlations among the percentage of religious people and the nine dimensions shed more light on the negative association between religiosity and the overall index of social cohesion. In societies with more religious people the following dimensions tend to be significantly lower: social networks, trust in people, acceptance of diversity, trust in institutions, perception of fairness, and civic participation. In contrast, identification is higher in more religious societies. On the one hand, some of these associations are at first sight surprising, considering the abundant literature on the greater social capital of religious people. On the other, religion is a traditional value orientation, alongside family values, that does not emphasize the inclusive form of social cohesion that our conceptualization advocates.

In fact, it is difficult to speak of clear causal mechanisms with religion, because many of the dimensions exhibit feedback loops with it. The reversed associations mainly point to a function of religion as a coping mechanism to deal with insecurities. Societies with weak social networks, lower trust in people, lower acceptance of diversity, and a lower perception of fairness appear to be more religious later in time. This is in correspondence with the theory of Norris and Inglehart (2004) that in times of hardship people become more religious. There is also a positive feedback loop with identification.

As to post-materialism, the evidence speaks for a causal direction running from values to dimensions of cohesion. Societies that place more emphasis on a post-materialist orientation have stronger social networks, place more trust in others, have a higher tolerance for different lifestyles, perceive more fairness, tend to express stronger solidarity with others, have greater respect for the rules in society, and participate more often in social and political life.

A higher emphasis on a materialist orientation reduces the breadth of social networks, trust in others, acceptance of diversity, perception of fairness, solidarity, and civic participation. These results once again justify our initial strategy of conceptually and analytically separating values from the concept of social cohesion.

The most important finding concerning values is that they are more likely to be predictors than consequences of social cohesion, but this effect does not appear to be overly strong.

The relationship between societal-level social cohesion and individual-level value preferences is readdressed in the next chapter.

5.2.7 Subjective Well-Being

While the overall index of cohesion shows more clearly that more cohesive societies are happier, the picture here is somewhat more complex. The results suggest that happier societies place more trust in their institutions. In turn, more reliable social networks and stronger respect for social rules enhance life satisfaction. Positive feedback loops are found for trust in people, perception of fairness, solidarity and helpfulness, and civic participation. It is notable, in particular, that trust, distributive fairness, and even solidarity have often been associated with individual well-being, and that it is exactly these dimensions that exhibit feedback links with social well-being. Further analyses on the individual level with larger datasets could shed more light on this reciprocity.

In the sphere of subjective well-being, the most important finding is that life satisfaction breeds respect for social rules.

5.3 The Strongest Determinants of Social Cohesion

In this section we return to explaining the overall index. In Sect. 5.1 we identified a number of factors that shape society's level of cohesion. But which of these conditions have the strongest impact? We shed light on this question with the help of multiple regression performed within a structural equation modeling framework. This has been once again done in order to account for incomplete information on some of the predictors. The structure of the data is the same as in the time-lagged analyses above: We investigate the way in which a societal characteristic in an earlier wave relates to the overall cohesion index in a later wave.

From the set of determinants outlined above we select those that (a) correlate with cohesion at a two-tailed significance level of 5 %, (b) do not correlate more highly with earlier cohesion, and (c) correlate most strongly with later cohesion within their respective thematic set. The selected country characteristics are GDP p. c. (positive), income inequality (negative), age dependency ratio (positive), knowledge index (positive), and the strength of materialist values (negative).

Table 5.5 Multiple regression of overall index (later wave) on determinants of cohesion (earlier wave)

	b	se	ß
Gross domestic product (ln)	.383	.118	.259 ***
Income inequality	-.023	.009	-.133 ***
Age dependency ratio	-.003	.009	-.018
Knowledge Index	.480	.080	.594 ***
Percentage of immigrants	.000	.005	.003
Strength of materialist values	-.363	.542	-.058
Intercept	-6.858	1.233	***

b and se refer to the regression coefficients and their standard errors, respectively, from the unstandardized solution, whereas ß refers to the standardized regression estimates. The latter can be interpreted as if they were correlation coefficients.
Significance of the effects in the case of two-sided tests: *** p ≤ .01, ** p ≤ .05, * p ≤ .10.
Amount of explained variance with the given set of predictors is 76.95 % (R^2 = .80).
N = 102 country-wave observations.

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Additionally, we included the percentage of immigrants in the analysis due to its socio-political relevance. This rather small set of possible determinants minimizes the risk of encountering multi-collinearity among the predictors.

Below we present the results of the multiple regression of social cohesion, focusing on the standardized regression estimates that are given in Column "β". These standardized coefficients can be interpreted as if they were correlation coefficients. Hence, the closer a standardized regression coefficient is to 1, the greater the impact of the pertinent predictor on the dependent variable. A specific effect should be interpreted in light of the logic of multiple regression that all other variables are kept constant or, in more technical terms, at their average value. Finally, if the simple correlation between a given predictor and the dependent is significant but the predictor's effect in the multiple regression is not, this shows that the covariation between the two variables has been taken up by another variable in the model. Table 5.5 presents the evidence.

First, the knowledge index is the strongest predictor of social cohesion ($\beta = 0.59$, $p < 0.01$). Hence, structural modernization in terms of education, innovation, and communication technologies actually fosters the cohesiveness of societies rather than threatening it. The second strongest effect is that of society's level of economic affluence ($\beta = 0.26$, $p < 0.01$). Wealthier societies are more cohesive, but one should not forget the evidence from the first section that more cohesive societies are also more productive in economic terms. The third and last significant effect is that of income inequality: Societies with gaping inequalities tend to be less cohesive ($\beta = -0.13$, $p < 0.01$). Neither the age dependency ratio ($\beta = -0.02$), nor the percentage of immigrants ($\beta = 0.00$), nor the strength of the materialist value orientation ($\beta = -0.06$) have a significant and strong effect on cohesion, once these other determinants are accounted for.

In toto, the model with the selected set of determinants explains 80 % of the country differences. Social cohesion is strengthened by the progress a society has made towards a knowledge economy and its level of economic affluence. It is undermined by gaping income inequalities, but not by immigration. The latter finding clearly corresponds with Uslaner's thesis (2012). Overall, our results suggest that social cohesion is influenced by universalistic conditions rather than by particularistic ones, i.e. culture-specific factors.

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Chapter 6
Social Cohesion, Values of Individuals, and Their Well-being

Abstract This chapter links the macro-level attribute social cohesion to two essential individual characteristics: values and subjective well-being. The first section explores the predictive, concomitant, and consequential character of cohesion in relation to individual value preferences. We operationalize the latter following Schwartz' model of ten value types with data from Rounds 1–4 of the European Social Survey. Data on social cohesion refer to a period before, concurrent with, or after an ESS round. Multilevel regression analyses show that conservation and self-enhancement values are negatively related to social cohesion, whereas self-transcendence and openness values exhibit a positive relationship. Evidence remains inconclusive with respect to the causal direction. The second section studies the effect of social cohesion on the well-being of individuals and various groups of resource-rich and resource-poor groups. Our analyses draw on data from Rounds 1–3 of the European Quality of Life Survey on happiness and life satisfaction. We find consistent evidence that social cohesion enhances subjective well-being above and beyond national affluence and relevant individual characteristics. Everyone and every group equally strongly benefits from high cohesion.

Keywords Schwartz values · Subjective well-being · Social cohesion · Individual values

In this chapter we investigate the associations of social cohesion with the values and well-being of individuals. First, we perform a micro-macro transition to analyze whether values prevalent among individuals in an earlier period determine later levels of cohesion or vice versa. Second, we perform a macro-micro transition to delve deeper into the effect of social cohesion on the happiness and life satisfaction of individuals in general and according to their belonging to particular societal groups.

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6.1 Individual Values and Social Cohesion[1]

The relationship between values and cohesion has not been explained in depth yet. Although researchers agree that individual values and behavior affect, and are affected by social cohesion, it is debatable, as we argued in Chap. 1, whether a cohesive society needs homogeneous values. The evidence provided in this section cannot answer the question. It only attempts to shed light on the relationship of individual values and social cohesion by relating country-level cohesion scores to individual-level value preferences as defined by Schwartz (1992) in order to discover whether values of individuals are related to the cohesion of social entities.

How do individual values associate with social cohesion? We address this question with data from the European Social Survey (ESS), which includes only countries from the European Research Area (European countries and Israel). Due to this fact, our analyses must exclude Australia, Canada, New Zealand, and the US. In a certain sense, these analyses expand on our elaborations of the causes, concomitants, and consequences of social cohesion. Do the guiding principles people follow in their lives (their value preferences) enable social cohesion? Or does the degree of social cohesion they experience in their countries shape their value preferences? Or are individual-level value preferences and societal-level cohesion merely concomitants in the sense that, while certain values are preferred in cohesive countries and others in less cohesive countries, there is no actual causal relationship? As our undertaking is—to the best of our knowledge—the first of its kind, we refrain from formulating hypotheses. We regard it as an endeavor of uncovering the reciprocal influences of values and societal features.

We conduct multi-level analyses to pursue these questions. As aggregate-level predictors we employ cohesion scores from (a) a period before an ESS round, (b) a period that includes a given ESS round, and (c) a period after an ESS round. Figure 6.1 illustrates the analytic design.

This analytic design enables us to estimate the predictive, concomitant, and consequential character of social cohesion in relation to value preferences. As individual-level variables we use the ten Schwartz value types assessed with a 21-item instrument in the ESS: Universalism (UN), Benevolence (BE), Tradition (TR), Conformity (CO), Security (SE), Power (PO), Achievement (AC), Hedonism (HE), Stimulation (ST), and Self-Direction (SD). Table 6.1 documents the meaning of the ten Schwartz value types.

The Schwartz value types have been entered separately into the models after an MRAT correction,[2] that is, scores have been centered around the mean of individuals across all 21 value items. Countries differ significantly on values

[1]This section was co-authored by Mandy Boehnke, Director of Studies at the Bremen International Graduate School of Social Sciences (BIGSSS).

[2]A description of the procedure is available under: http://www.europeansocialsurvey.org/docs/methodology/ESS1_human_values_scale.pdf.

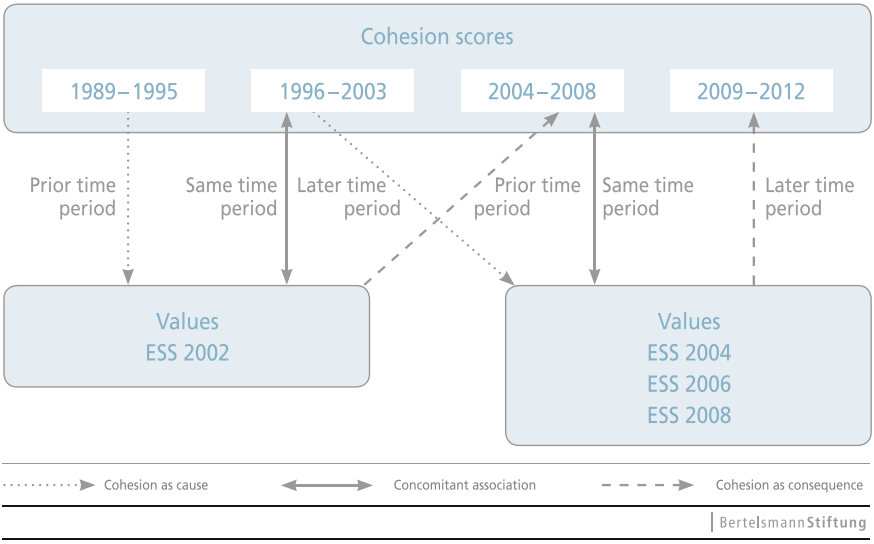

Fig. 6.1 Analytic strategy to exploring associations between individual values and social cohesion

Table 6.1 Definitions of Schwartz value types assessed in the ESS

Value Type	Defnition
UNIVERSALISM (UN)	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature
BENEVOLENCE (BE)	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact
TRADITION (TR)	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide
CONFORMITY (CO)	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
SECURITY (SE)	Safety, harmony, and stability of society, of relationships, and of self
POWER (PO)	Social status and prestige, control or dominance over people and resources
ACHIEVEMENT (AC)	Personal success through demonstrating competence according to social standards
HEDONISM (HE)	Pleasure or sensuous gratifcation for oneself
STIMULATION (ST)	Excitement, novelty, and challenge in life
SELF-DIRECTION (SD)	Independent thought and action – choosing, creating, exploring

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preferences, as judged on the basis of a significant Wald test. Details on simple country differences have been omitted from the following tables.

Tables 6.2, 6.3, 6.4 and 6.5 document evidence on the relationship between individual-level value preferences, as measured with data from the ESS Rounds 1–4, and social cohesion.

The tables show that social cohesion in a country is negatively related to individual preferences of tradition (TR), conformity (CO), security (SE), power (PO), and achievement (AC) values. The relationship with conformity values (CO) is not significant in any single case. The relationship with power values is insignificant in 6 out of 12 cases. The relationship with achievement values is insignificant in 2 out of 12 cases. The association with security values is the strongest of all relationships; in no case is there a relationship of less than $\beta = -0.20$. For tradition values, the relationship is also consistently significant. This means that people in less cohesive countries express substantially higher security and higher tradition values than people in more cohesive countries.

Table 6.2 Results with ESS Round 1 of 2002

	UN	BE	TR	CO	SE	PO	AC	HE	ST	SD
Cohesion 1989-1995	.09 **	.16 ***	-.12 ***	-.04	-.21 ***	-.08 **	-.10 *	.10	.10 ***	.14 ***
Cohesion 1996-2003	.09 **	.18 ***	-.13 ***	-.06	-.22 ***	-.08 **	-.08	.12 *	.10 ***	.13 ***
Cohesion 2004-2008	.09 **	.18 ***	-.14 ***	-.06	-.22 ***	-.09 **	-.08	.12 *	.10 ***	.14 ***

The table shows standardized regression coefficients. Significance of the estimates in the case of two-sided tests: * $p < .10$, ** $p < .05$, *** $p < .01$.

Table 6.3 Results with ESS Round 2 of 2004

	UN	BE	TR	CO	SE	PO	AC	HE	ST	SD
Cohesion 1996-2003	.08 **	.17 ***	-.14 ***	-.04	-.22 ***	-.11 **	-.08 *	.15 **	.07 ***	.14 ***
Cohesion 2004-2008	.10 ***	.19 ***	-.14 ***	-.04	-.21 ***	-.14 ***	-.10 **	.16 **	.07 ***	.15 ***
Cohesion 2009-2012	.10 ***	.18 ***	-.16 ***	-.02	-.20 ***	-.14 ***	-.09 **	.13 *	.07 ***	.16 ***

The table shows standardized regression coefficients. Significance of the estimates in the case of two sided tests: * $p < .10$, ** $p < .05$, *** $p < .01$.

Table 6.4 Results with ESS Round 3 of 2006

	UN	BE	TR	CO	SE	PO	AC	HE	ST	SD
Cohesion 1996-2003	.11 **	.17 ***	-.15 ***	-.05	-.25 ***	-.02	-.13 **	.15 **	.07 **	.16 ***
Cohesion 2004-2008	.12 ***	.17 ***	-.16 ***	-.06	-.25 ***	-.03	-.16 ***	.16 **	.06 **	.18 ***
Cohesion 2009-2012	.11 **	.15 ***	-.18 ***	-.02	-.24 ***	-.02	-.13 **	.13 *	.07 **	.18 ***

The table shows standardized regression coefficients. Significance of the estimates in the case of two-sided tests: * $p < .10$, ** $p < .05$, *** $p < .01$.

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Table 6.5 Results with ESS Round 4 of 2008

	UN	BE	TR	CO	SE	PO	AC	HE	ST	SD
Cohesion 1996-2003	.12 ***	.19 ***	-.11 ***	-.06	-.26 ***	-.09	-.14 **	.14 **	.09 ***	.16 ***
Cohesion 2004-2008	.13 ***	.20 ***	-.12 ***	-.06	-.26 ***	-.09	-.15 ***	.15 **	.08 ***	.17 ***
Cohesion 2009-2012	.13 ***	.19 ***	-.12 ***	-.03	-.24 ***	-.09	-.16 ***	.12 *	.09 ***	.17 ***

The table shows standardized regression coefficients. Significance of the estimates in the case of two-sided tests: * $p < .10$, ** $p < .05$, *** $p < .01$.

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Social cohesion in a country is positively related to universalism (UN), benevolence (BE), hedonism (HE), stimulation (ST), and self-direction (SD) values. The relationship with hedonism values is significant in 11 out of 12 cases. In total, the relationship of social cohesion with benevolence values and with self-direction values is relatively strongest, whereas with universalism and stimulation values it is weaker. This means that people in more cohesive countries express higher self-direction and benevolence values as well as moderately higher universalism and stimulation values than people in less cohesive countries.

In light of the circumplex structure of Schwartz's value theory (Schwartz and Boehnke 2004), it is conceptually striking that all conservation (TR, CO, SE) and self-enhancement values (PO, AC) exhibit a negative, though not always significant, relationship with social cohesion, while all self-transcendence (UN, BE) and openness values (HE, ST, SD) exhibit a positive relationship.

As to the question whether social cohesion serves as a predictor of (later) value preferences or whether value preferences at a given time impact (later) social cohesion, i.e., the question of the causal relationship between cohesion and values, the evidence is entirely inconclusive. There is not a single case, where the coefficients for the two directions of impact differ by more than $\beta = .03$. Among the altogether 40 comparisons allowed by the analytic design, there are 18 coefficients suggesting that individual level values impact later social cohesion more than vice versa. There are 11 coefficients suggesting the reverse direction, namely that social cohesion at an earlier instance impacts individual level values at a later time. In other 11 cases, coefficients for the two possible directions of impact do not differ. An inspection of the relative size of the coefficients for the single values suggests that for tradition values it is more plausible to assume that prior individual value preferences affect later social cohesion. In all four cases, the coefficients relating earlier individual level values with later social cohesion are higher than the coefficients relating earlier social cohesion and later individual level values: Countries with large proportions of people expressing high tradition values may experience lower social cohesion at a later stage. For self-direction values a similar, but weaker result emerged. In three out of four cases it is more plausible to assume that values impact social cohesion. This finding might be regarded as being in line with propositions by Inglehart and Welzel (2005), who show that self-expression values (a close conceptual relative of self-direction values) are a driving force in the development of participatory, civically engaged democracies. Although these findings seem to make intuitive sense, they should currently be treated with care as they are only weakly supported by statistical analyses.

In summary, the analyses support the conclusion that the value preferences of people living in a given country reflect the level of social cohesion in that country: People in countries with low cohesion tend to have a stronger preference for conservation values and self-enhancement values than people in highly cohesive countries. Conversely, people in countries with high cohesion have a stronger preference for openness and for self-transcendence values than people in countries with low cohesion. There are only very few indications of a causal relationship between values and cohesion. If one wants to at all interpret small differences between the obtained coefficients, it rather seems to be the case that values have an impact on social cohesion than vice versa.

6.2 Social Cohesion and the Well-Being of Individuals

The time-lagged macro-level explorations of determinants and outcomes from Chap. 5 showed that social cohesion boosts the average level of well-being. In this section we deepen our analyses on this relationship. More specifically, we attempt to find out whether living in a cohesive society increases the subjective well-being of individuals and whether high levels of cohesion are equally good for everybody.

Subjective well-being rests on three main pillars: having, loving, and being (Delhey 2013). Defined as the degree of togetherness in society, social cohesion relates mainly to the second pillar, loving. In theory, places in which people have strong networks, feel attached, and become involved with the common good are more pleasant and relaxing, and this should be reflected in higher levels of subjective well-being. To some extent, this expectation can be corroborated by previous research. One of the most robust findings in happiness research is that a person's social relations and other measures of their social capital increase subjective well-being (Haller and Hadler 2006; Helliwell and Putnam 2004). Social trust has also been shown to increase subjective well-being, both as an individual property (Calvo et al. 2012; Helliwell and Wang 2011) and a collective one (Bjornskov 2006). On the other hand, societies rich in associational life do not seem to have happier citizens (Bjornskov 2006), and civic participation too is a dimension of cohesion. Hence it remains to be seen how important cohesion—as a collective, contextual property—is for individual well-being. In this light, the debate about the negative sides of social capital such as exaggerated social control, restriction of personal freedom, downward leveling of norms, and rent-seeking (Graeff 2009; Portes and Landolt 1996) gains relevance as well. Like social capital, social cohesion may ultimately be a mixed blessing.

Our theoretical premises stem from the sequence model of life evaluation (Veenhoven 2012). In evaluating life as a whole, people draw cognitively on perceptions of how their life is, compared to their ideal of how it should be, and emotionally on the balance of positive and negative emotions. These cognitions and emotions are a reaction to life events that a person experiences daily. Our key argument is that a cohesive society is a crucial societal condition for a positive life evaluation. Living in a cohesive environment can be expected to trigger more positive and less negative life events, other things being equal. These more positive daily experiences improve the affect balance and shift cognitive representations of the social environment towards judgments such as nice, rewarding, and livable. As a result, people are happier and more satisfied with life.

Wilkinson and Pickett (2010) reason that equality is good for all, even for the rich. Would then all members of society benefit from social cohesion to the same extent? We hypothesize that vulnerable groups—resource-poor categories such as the poor, the unemployed, migrants, or the elderly—benefit more from living in a cohesive society than resource-rich people do. Our reasoning is that the former groups draw on collective resources more frequently in order to compensate for their lack of individual resources. In contrast, resource-rich groups may be less dependent on their social environment and more sensitive to the potential dark sides of cohesion.

Like cohesion, subjective well-being has been conceived as a multi-dimensional concept, though with more clearly defined boundaries. Due to considerations of space, we cannot discuss at length the various facets of subjective well-being like transitory emotional states and stable life evaluations (Diener et al. 1999; Nettle 2005), or the hedonic and eudaimonic components of well-being (Huppert and So 2013; Keyes et al. 2012; Ryff 1989). Here we focus exclusively on happiness and

life satisfaction as key indicators of stable life evaluations (Nettle 2005; Veenhoven 2012); these are the most widely used measures in well-being research.

Since the Gallup World Poll item on life satisfaction, used in the macro-level analyses of Chap. 5, provides data only for the two most recent waves of cohesion, Wave 3 (2004–2008) and Wave 4 (2009–2012), and is moreover obtainable to us as country averages only, we employ the European Quality of Life Survey (EQLS 2006, 2009, 2013) instead. The EQLS is a cross-sectional comparative project of the European Foundation for the Improvement of Living and Working Conditions (Eurofound) that offers data on various individual characteristics from representative samples of the population of age 18 and above in the European Union member states. Consequently, the following analyses pertain to the EU member states only.

The EQLS has been fielded three times so far: Round 1 in 2003, Round 2 in 2007, and Round 3 in 2011. This enables us to cover three cohesion waves. The analyses pool three time-lagged pairs of waves: cohesion in Wave 1 (1989–1995) with EQLS 2003, cohesion in Wave 2 (1996–2003) with EQLS 2007, and cohesion in Wave 3 (2004–2008) with EQLS 2011. This strategy increases the plausibility of causal inferences. After applying listwise deletion for the missing values, we arrive at a working sample of 90,768 individuals nested within 82 country-by-wave units. The macro-level controls GDP p.c. (World Bank 2012), income inequality Gini (Solt 2009), and unemployment rate (World Bank 2012) refer to the waves of cohesion.

The EQLS survey includes tried-and-tested items on happiness and life satisfaction: "Taking all things together…, how happy would you say you are" and "All things considered, how satisfied would you say you are with your life these days." Both have a response scale from 1 (very unhappy or very dissatisfied, respectively) to 10 (very happy or very satisfied, respectively). The two items correlate strongly and significantly at r (90,766) = 0.65, $p < 0.01$. Cronbach's alpha is sufficiently high at 0.79. We therefore combine happiness and life satisfaction into a composite measure by taking their average for each individual, thereby following a long-standing tradition that treats the two measures as parts of subjective well-being (Diener et al. 2003).[3] Figure 6.2 presents country averages on subjective well-being in each data collection year of the EQLS. The scores are ranked by the level of cohesion according to the wave matching pattern described above in order to give a first impression on the link between social cohesion and subjective well-being at various points in time.

In order to isolate possible effects of the composition of the population, we control for a number of individual characteristics known to influence well-being. These are: gender with men as a reference group; age and its quadratic effect (both continuous); marital status, with married and cohabiting respondents forming the reference category as compared to the separated, widowed, and divorced on the one

[3]Some scholars argue that they are not exactly the same thing and should be treated separately (Haller and Hadler 2006), but at least in European countries happiness and life satisfaction are highly correlated (cf. Delhey and Dragolov 2014).

Fig. 6.2 Country average scores on subjective well-being

hand, and singles on the other; education as measured with the International Standard Classification of Education (ISCED) on a scale of 0 (no completed education) to 6 (advanced level of tertiary education); employment status, with the employed serving as a reference group in comparison to the unemployed, the retired, and a third group comprising homemakers, students, and other; and how easily people manage to make ends meet as measured on a scale that we reversed such that 1 stands for "with great difficulty" and 6 for "very easily".[4]

[4]We took this variable as a proxy for income because the EQLS income variable has too many missing values.

We apply multi-level modeling (Hox 2010) as the appropriate framework to relate cohesion, a characteristic of the societal context, to the subjective well-being of individuals, while accounting for other societal characteristics and the composition of the population on the individual level. Then, we perform separate analyses for resource-rich and resource-poor groups.

6.2.1 Well-Being of Individuals Is Higher in More Cohesive Countries

The specification of the so-called empty model in multi-level regression, in which there is only an intercept that is permitted to vary at the higher level, gives insightful information on the percentage of total variation in the dependent variable that can be attributed to the effects of the societal context. This is known as the intraclass correlation, ρ.[5] According to an established rule of thumb (Hox 2010), we assess a contextual effect of 0.15 on subjective well-being as large.

Column "I" of Table 6.6 presents the effects of the examined individual-level controls on subjective well-being. These alone explain 31 % of the individual differences (R_1^2) and up to 73 % of the cross-country differences in subjective well-being (R_2^2). It thus appears that much of the cross-country variation is due to the composition of the population in terms of the studied individual-level characteristics.

Column "F" of Table 6.6 shows the evidence from the multi-level regression model which specifies the effect of social cohesion along with three macro-level controls, national affluence, income inequality, and the unemployment rate. For cohesion we find a positive and highly significant effect on subjective well-being, suggesting that individuals are indeed happier in more cohesive societies. Living in a wealthy society is also good for subjective well-being, but cohesion is the more important condition (cf. Delhey and Dragolov 2015). This fact chimes with theories on the post-materialization of happiness. Cross-national comparisons show that citizens, particularly in richer countries, put more emphasis on loving and being and less emphasis on having (Delhey 2013). Since cohesion relates primarily to loving, it is no surprise that it appears more important for well-being than affluence.

6.2.2 Cohesive Societies Are Good for Everyone

We turn to a comparison of the effect of social cohesion on the subjective well-being for resource-rich and resource-poor categories of people, the latter

[5] $\rho = \sigma_{u0}/(\sigma_{u0} + \sigma_e)$, with σ_{u0} being the slope variance of the intercept term and σ_e its residual variance.

Table 6.6 Multi-level regression of SWB (international comparison)

	I	F
Level: Country by wave		
Cohesion index		0.29 ***
ln(GDP)		0.18 *
Gini index		-0.00
Unemployment rate		0.00
Level: Individual		
Female	0.12 ***	0.12 ***
Age (years)	-0.03 ***	-0.03 ***
Age (quadratic effect)	0.00 ***	0.00 ***
Marital status: Married	ref.	ref.
Separated/Widowed/Divorced	-0.52 ***	-0.52 ***
Single	-0.40 ***	-0.40 ***
Education: Primary or lower	ref.	ref.
Secondary	0.08 ***	0.08 ***
Tertiary	0.13 ***	0.13 ***
Employed	ref.	ref.
Unemployed	-0.53 ***	-0.53 ***
Retired	0.15 ***	0.15 ***
Other employment status	0.10 ***	0.10 ***
Easy-difficult to make ends meet	0.36 ***	0.36 ***
Health satisfaction	0.29 ***	0.29 ***
Intercept	4.28 ***	2.59 ***
Slope variance (Intercept)	0.14 ***	0.06 ***
Residual variance (Intercept)	2.02 ***	2.02 ***
N_2 (Country by wave)	82	82
N_1 (Individual)	90,768	90,768
R_2^2 (Country by wave)	0.73	0.87
R_1^2 (Individual)	0.31	0.31

The table shows unstandardized estimates from multi-level regression. Significance of the estimates in the case of two-sided tests:
* p < .10, ** p < .05, *** p < .01.

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representing more vulnerable groups. We differentiate the groups along the following lines (hypothesized vulnerable groups mentioned second):

- Gender—men versus women;
- Age—young (18–64 years old) versus old (65 and above);

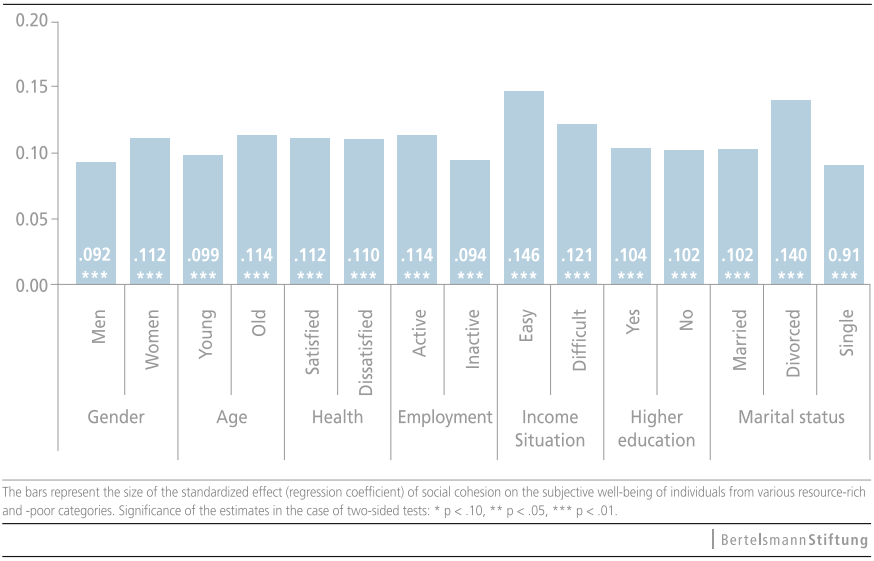

Fig. 6.3 Impact of cohesion on subjective well-being for groups of resource-rich and resource-poor individuals

- Self-rated health[6]—satisfied (6–10 on the original response scale) versus not satisfied (1–5 on the original response scale);
- Employment—active (employed) versus inactive (unemployed, retired, other status);
- Income situation[7]—easy to make ends meet (fairly easy, easy, and very easy) versus difficult (very difficult, difficult, and somewhat difficult) to make ends meet;
- Education—attained higher education versus not;
- Marital status—married versus divorced/separated/widowed versus single.

The variable with respect to which we form these contrast groups has been taken out of the respective analyses.[8] Figure 6.3 summarizes the evidence. The full results are given in Tables A.18 and A.19 of the Appendix.

[6]The questionnaire item reads: "Could you please tell me on a scale of 1 to 10 how satisfied you are with each of the following items, where 1 means you are very dissatisfied and 10 means you are very satisfied? […] Your health."

[7]The questionnaire item reads: "A household may have different sources of income and more than one household member may contribute to it. Thinking of your household's total monthly income: is your household able to make ends meet…?".

[8]For the analyses on the two age groups, we additionally excluded the employment dummies due to the overlap between the group of older respondents and the group of the retired and unemployed.

We find consistently positive and significant, though not overly strong, effects of social cohesion on the well-being of individuals in every group, above and beyond the effects of both individual and other societal characteristics for which we have controlled. Any concerns about possible dark sides of cohesion cannot be supported empirically. Hence we can conclude that *everybody* benefits from cohesion: young or old, economically active or inactive, male or female, satisfied or dissatisfied with their health, well-off or poor, highly educated or not, in partnership or not. Further, there is no noticeable difference in the size of the effects between the non-vulnerable and vulnerable groups on any of the examined characteristics. Cohesion clearly seems to be not only good, but also good for all.

In light of this evidence, if the goal of public policy is to raise levels of life satisfaction for everybody, investing into social cohesion appears to be an inclusive and smart approach. The caveat is that the proper framework conditions for strong social relations, a feeling of connectedness, and the motivation to act with a focus on the common good are arguably difficult to craft.

This section has focused on the national level of social cohesion. Does the regional level of cohesion have a similar positive effect on well-being? We examine this question, among many others, in Chap. 7.

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Chapter 7
A Case Study: Social Cohesion in Germany

Abstract This chapter demonstrates the applicability of the Social Cohesion Radar to a level of geopolitical organization below the national one, namely the regional level. We take the case of Germany, as a federal republic of 16 federal states (*Bundesländer*). Applying the same conceptualization of cohesion (see Chap. 1) and virtually the same methodology (see Chap. 2), we pursue the same research questions as in the previously presented international comparison. The results point to a clear division along the lines of the former West and East Germany, with all former East German federal states exhibiting a lower level of social cohesion. Just as on the national level, social cohesion on the regional level is a fairly stable phenomenon across time. Affluence, lower spread of poverty, urbanization, a more age-homogeneous composition of the population, as well as ethnic diversity foster the degree of regional cohesion. Cultural aspects and values do not seem to have an effect. In turn, social cohesion boosts both the aggregate level of subjective well-being across the federal states and that of individuals. Moreover, it is the resource-poorer groups of society that particularly benefit more from higher cohesion at the regional level.

Keywords Germany · Social cohesion · Poverty · Subjective well-being · Federal states

The previous chapters dealt exclusively with the degree of cohesion on the national level. Nation states are certainly not the only geopolitical entities that organize the coexistence of individuals and groups. Many nation states have regional subunits, often with local governments. These regions are comprised then of cities, towns, and villages, which have yet finer compositions, for example, neighborhoods. Operating above the national level, supranational organizations like the European Union organize the coexistence of nation states, which begs the question of how much cohesion exists within this supranational community. In a nutshell, the problem of cohesion may arise at various levels, from the transnational and national down to the regional and local, and even in neighborhoods.

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This chapter deals with social cohesion on the regional level within a nation state. It aims to demonstrate the applicability of the Social Cohesion Radar to a level of geopolitical organization other than the national one. We take the case of Germany, as a federal republic of 16 federal states (*Bundesländer*). The federal states have their own governments with a residual degree of sovereignty from the federation. Applying the same conceptualization of cohesion (see Chap. 1) and virtually the same methodology (see Chap. 2), we pursue the same research questions as in the previously presented international comparison. In the following paragraphs we offer only a brief overview on the main insights from the comparison of the German federal states. For more details, we refer the reader to the full text of the intra-German study (Bertelsmann Stiftung 2014a) as well as its accompanying methods report (Bertelsmann Stiftung 2014b), codebook, and dataset, all available on the project website http://www.social-cohesion.net.

7.1 Data and Methods

The units of analysis are the 16 federal states of Germany (former East German states marked with an asterisk): Baden-Württemberg, Bavaria, Berlin*[1], Brandenburg*, Bremen, Hamburg, Hesse, Lower Saxony, Mecklenburg-Vorpommern*, North Rhine-Westphalia, Rhineland-Palatinate, Saarland, Saxony*, Saxony-Anhalt*, Schleswig-Holstein, and Thuringia*. They are displayed in the map of Fig. 7.1. Three of the federal states are city-states: Berlin, Bremen, and Hamburg.

In order to achieve correspondence to the international comparison, we have retained the same four time periods: Wave 1 (1989–1995), Wave 2 (1996–2003), Wave 3 (2004–2008), and Wave 4 (2009–2012).

7.1.1 Secondary Data Sources

The intra-German comparison of social cohesion also relies on secondary data: six cross-sectional representative surveys as well as data from German institutions that offer a breakdown to each of the 16 federal states. Below is a list of the sources with short descriptions of those that have not been used in the international comparison.

7.1.1.1 Survey Data

1. World Values Survey (WVS or WEVS).
2. European Values Study (EVS or WEVS).

[1]Until 1990 one part of Berlin belonged to West Germany and another to East Germany.

Fig. 7.1 Division of the Federal Republic of Germany in 16 federal states

3. European Social Survey (ESS).
4. Eurobarometer (EB).
5. *Freiwilligensurvey* (FW).

The German *Freiwilligensurvey* (roughly translated as Volunteers' Survey; FW 1999, 2004, 2009) is a cross-sectional representative survey on topics related to voluntary work and civic participation. It is financed by the Federal Ministry of Family Affairs, Senior Citizens, Women and Youth (BMFSFJ). Data have been collected in 1999, 2004, and 2009.

6. *Allgemeine Bevölkerungsumfrage der Sozialwissenschaften* (AB).

The German General Social Survey (AB 2012, 2013) collects and disseminates data on attitudes and behavior related to a multitude of topics as well as on the social structure in Germany. It is similar to the American General Social Survey. Data have been collected every 2 years since 1980 from cross-sectional representative samples of the population. Until the unification of West and East Germany it was fielded only in West Germany.

7.1.1.2 Institutional Data

7. *Statistik-Portal der Statistischen Ämter des Bundes und der Länder* (SP).

The Statistics Portal offers access to the harmonized data of the Federal Statistical Office and the statistical offices of the federal states. It is a rich source of data on societal, political, and economic processes in Germany and its subdivisions.

8. *Bundeswahlleiter* (BW).

The Electoral Management Body (Bundeswahlleiter 2009, 2013) is responsible for overseeing elections in Germany. Traditionally the body is headed by the President of the Federal Statistical Office. The office of the Electoral Management Body disseminates data on voter turnout since 1946.

7.1.2 Method

The steps towards the construction of the overall index of cohesion for the German federal states closely correspond to those undertaken in the international comparison (see Fig. 2.1). Available data sources were screened to select a wide choice of indicators for each of the nine dimensions of cohesion. Data from the same source from multiple years within each of the four time periods were pooled together. Survey items were treated for missing values, recoded where necessary, and aggregated to the level of the federal states via their arithmetic mean. Based on exploratory factor analyses we selected the final—narrower—choice of indicators for the measurement of the nine dimensions in each time period. The corresponding reflective measurement models for each dimension yielded dimension scores (factor scores) for the 16 federal states in each wave of cohesion. The extracted dimension scores were standardized and entered into formative indices of social cohesion overall and of its three domains.

Table 7.1 presents a list of the final choice of indicators for the intra-German study.

Table 7.1 List of indicators in intra-German comparison

Dimension/Indicators	Period 1	Period 2	Period 3	Period 4
1. Social relations				
1.1 Social networks				
Receive help from friends and acquaintances (No/Yes)		FW*	FW	FW
Size of circle of friends and acquaintances (rather small/medium/very large)		FW*	FW	FW
Have someone to discuss confidential and personal matters with (No/Yes))		ESS	ESS	ESS
Friends very important in life (No/Yes)	WEVS	WEVS	WEVS	
1.2 Trust in people				
Most people can be trusted (No/Depends/Yes)	AB	AB	AB	AB
1.3 Acceptance of diversity				
Gays and lesbians free to live life as they wish (Disagree --- Agree)		ESS	ESS	ESS
Country's cultural life enriched by immigrants (cultural life undermined --- cultural life enriched)		ESS	ESS	ESS
Immigrants should adjust their lifestyle to the German one (not at all --- completely) (-)	AB	AB	AB	AB
Immigrants should be banned from political participation (not at all --- completely) (-)	AB	AB	AB	AB
Would not like to have neighbor: homosexuals (No/Yes) (-)	WEVS	WEVS	WEVS	
2. Connectedness				
2.1 Identification				
Feel attached to the region [city for Berlin, Bremen, Hamburg] (not at all --- strongly)	EB	EB	EB	EB
Feel attached to the federal state und its citizens (not at all --- strongly)	AB	AB	AB	
2.2 Trust in institutions				
Trust in justice system (absolutely none --- very strong)	AB	AB	AB	AB
Trust in the police (absolutely none --- very strong)	AB	AB	AB	AB
Trust in the city and communal administration (absolutely none --- very strong)	AB	AB	AB	
2.3 Perception of fairness				
Government should reduce differences in income levels (disagree --- agree) (-)		ESS	ESS	ESS
Receive my just share in terms of standard of living (No/Yes)	AB	AB	AB	AB
Differences in social status are acceptable (disagree --- agree)	AB	AB	AB	AB
3. Focus on the common good				
3.1 Solidarity and helpfulness				
Donated money for social/charitable purposes in past 12 months (No/Yes)		FW*	FW	FW
Frequency of voluntary activities in free time (never --- daily)		AB	AB	AB
Most people do not care about the others (No/Yes) (-)	AB	AB	AB	AB
Take more responsibility to ensure that everybody is provided for? (the people --- the government) (-)	WEVS	WEVS	WEVS	
3.2 Respect for social rules				
Fraud and embezzlement (Cases per 1,000 of the age of			SP	SP
criminal responsibility a year) (-)				
Theft and misappropriation (Cases per 1,000 of the age of			SP	SP
criminal responsibility a year) (-)				
Deliberate assault (Cases per 1,000 of the age of			SP	SP
criminal responsibility a year) (-)				
There is an area around, where I would not like to go alone at night (No/Yes) (-)	AB	AB	AB	
Member of household victim of burglary/attack (No/Yes) (-)		ESS	ESS	ESS
3.3 Civic participation				
Worn or displayed campaign badge/sticker (No/Yes)		ESS	ESS	ESS
Active in association, initiative, project or self-help group (No/Yes)		FW*	FW	FW
Voting turnout in elections for local government (%)	BW	BW	BW	BW
Interest in politics (absolutely none --- very strong)	AB	AB	AB	AB

Indicators marked with a (-) contribute to the respective dimension in the opposite direction. Explanation of abbreviations: BW: Bundeswahlleiter (Electoral Management Body); EB: Eurobarometer; ESS: European Social Survey; SP: StatistikPortal der Statistischen Ämter des Bundes und der Länder (Statistics Portal of the Federal Statistical Office and the statistical offices of the federal states); FW: Freiwilligensurvey (Volunteering Survey); WEVS: World Values Survey or European Values Study.

* Rheinland-Palatinate and Saarland have been subsumed in the Freiwilligen survey of 1999. Both federal states were assigned the averages of the respective items in Wave 2 (1996–2003).

7.2 Level and Trend of Cohesion

Table 7.2 depicts the level of social cohesion overall and with respect to the nine dimensions for the most recent period, 2009–2012. The results point to a clear division along the lines of the former West and East Germany. Social cohesion is stronger in the provinces of former West Germany than in those of former East Germany. Hamburg leads the ranking, followed by Baden-Württemberg and Saarland. All former East German federal states occupy the bottom of the ranking.

Table 7.2 Intra-German comparison of social cohesion (2009–2012)

Period 2009 – 2012	Overall index of social cohesion	1. Social relations			2. Connectedness			3. Focus on the common good		
		1.1 Social networks	1.2 Trust in people	1.3 Acceptance of diversity	2.1 Identification	2.2 Trust in institutions	2.3 Perception of fairness	3.1 Solidarity and helpfulness	3.2 Respect for social rules	3.3 Civic participation
Hamburg	0.92	1.46	1.19	1.48	1.84	0.76	0.62	0.79	-1.95	2.04
Baden-Wuertemberg	0.69	0.17	1.37	0.43	-0.07	0.37	0.75	1.71	0.86	0.67
Saarland	0.54	1.15	-0.01	-0.33	0.68	1.66	1.10	-0.49	0.13	0.94
Bremen	0.47	1.23	1.12	1.75	2.29	-0.66	0.22	-0.68	-2.27	1.2
Bavaria	0.44	-0.23	0.9	-0.03	-0.15	0.26	0.52	1.77	1.18	-0.26
Lower Saxony	0.30	1.04	-0.55	0.49	-0.32	0.75	0.67	0.53	0.26	-0.22
Hesse	0.25	0.77	-0.03	0.27	-1.16	0.85	0.85	0.46	0.57	-0.32
Berlin	0.24	0.01	1.26	1.26	-0.57	0.67	-0.51	0.33	-1.37	1.1
Rhineland-Palatinate	0.23	0.32	0.5	0.33	-0.46	-0.04	1.25	0.44	0.17	-0.40
North Rhine-Westphalia	0.17	0.60	0.1	0.17	-0.73	0.39	0.78	0.79	-0.35	-0.25
Schleswig-Holstein	-0.02	-0.46	-0.33	-0.02	-0.04	0.99	0.35	-1.19	0.44	0.13
Brandenburg	-0.51	-0.99	-0.68	-1.05	0.92	-1.07	-1.25	-1.15	0.38	0.26
Saxony	-0.67	-1.2	-0.68	-1.19	-0.3	-0.81	-1.27	-0.18	0.72	-1.17
Thuringia	-0.84	-1.00	-1.28	-1.07	0.25	-1.65	-1.31	-0.83	0.61	-1.3
Mecklenburg-Vorpommern	-0.95	-1.52	-0.85	-0.64	-1.06	-0.68	-1.3	-1.03	0.14	-1.61
Saxony-Anhalt	-1.25	-1.37	-2.03	-1.84	-1.11	-1.79	-1.49	-1.29	0.47	-0.80

The table shows overall cohesion and dimension scores. The five colors designate the top tier (dark blue = ■), second tier (blue = ■), middle tier (light blue = ■), fourth tier (yellow = ■) and bottom tier (orange = ■). White dots (□) designate dimension values that were estimated based on other time periods.

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Though a leader, Hamburg does not score consistently high on all dimensions of cohesion. In fact, Hamburg ranks very low on respect for social rules, which is a weakness that it shares with the other city-states of Bremen and Berlin. Respect for social rules is the only dimension where the former East German provinces score higher.

It appears that social cohesion is a fairly stable phenomenon on the federal state level as well. As Table 7.3 shows, the rankings of the federal states do not oscillate sizably across the four time periods. Hamburg, Bavaria, and Lower Saxony improved their level of cohesion, whereas Bremen—ranking first in the early 1990s—, Schleswig-Holstein, Thuringia, and Mecklenburg-Vorpommern fell behind.

Table 7.4 shows trends in the three domains of social relations, connectedness, and focus on the common good. For each domain, the provinces are ranked according to their current (2009–2012) degree of cohesion. The city-states score high on social relations, although Berlin exhibits some fluctuations. The time comparison of this domain further reveals a polarization between the former West and East German federal states as of the 1990s. The gap was quite small immediately

Table 7.3 Intra-German comparison of social cohesion over time

	1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012
Hamburg	0.48	0.26	0.73	0.92
Baden-Wuertemberg	0.27	0.21	0.64	0.69
Saarland	0.39	0.30	0.19	0.54
Bremen	0.96	0.41	0.06	0.47
Bavaria	0.24	0.62	0.46	0.44
Lower Saxony	0.10	0.34	0.35	0.30
Hesse	0.07	0.36	0.26	0.25
Berlin	-0.19	0.22	-0.33	0.24
Rhineland-Palatinate	0.33	0.53	0.38	0.23
North Rhine-Westphalia	0.04	0.19	0.16	0.17
Schleswig-Holstein	0.29	0.5	0.2	-0.02
Brandenburg	-0.71	-0.93	-0.82	-0.51
Saxony	-0.23	-0.50	-0.24	-0.67
Thuringia	-0.36	-0.77	-0.65	-0.84
Mecklenburg-Vorpommern	-0.74	-0.43	-0.41	-0.95
Saxony-Anhalt	-0.94	-1.31	-0.99	-1.25

The table shows trends in the overall index of social cohesion over time. The five colors designate the top tier (dark blue = ■), second tier (blue = ■), middle tier (light blue = ■), fourth tier (yellow = ■) and bottom tier (orange = ■).

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Table 7.4 Domain scores across Germany's federal states over time

Social relations	1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012
Hamburg	1.16	1.10	1.40	1.38
Bremen	1.60	0.39	1.27	1.37
Berlin	0.25	1.21	-0.26	0.84
Baden-Wuertemberg	-0.19	-0.33	0.54	0.65
Rhineland-Palatinate	-0.18	0.39	0.15	0.38
Hesse	-0.02	0.17	0.13	0.34
Lower Saxony	0.10	0.06	0.21	0.33
North Rhine-Westphalia	-0.08	0.69	0.25	0.29
Saarland	0.82	0.57	0.47	0.27
Bavaria	-0.56	-0.15	-0.13	0.21
Schleswig-Holstein	0.31	0.35	-0.11	-0.27
Brandenburg	-0.45	-1.09	-1.23	-0.91
Mecklenburg-Vorpommern	-0.88	-0.68	-0.87	-1.00
Saxony	-0.58	-0.39	-0.30	-1.02
Thuringia	-0.61	-0.88	-0.55	-1.12
Saxony-Anhalt	-0.70	-1.41	-0.97	-1.74

Orientation towards the common good	1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012
Baden-Wuertemberg	0.67	0.76	0.69	1.08
Bavaria	0.31	1.01	0.81	0.90
Hamburg	-0.29	-0.06	-0.06	0.29
Hesse	0.07	0.55	0.65	0.24
Lower Saxony	0.29	0.62	0.78	0.19
Saarland	-0.08	0.08	-0.04	0.19
Rhineland-Palatinate	0.68	0.61	0.27	0.07
North Rhine-Westphalia	-0.10	0.01	-0.17	0.06
Berlin	0.02	0.14	0.04	0.02
Brandenburg	-0.49	-0.89	-0.54	-0.17
Schleswig-Holstein	0.09	0.48	0.56	-0.21
Saxony	-0.08	-0.47	0.03	-0.21
Thuringia	-0.29	-0.74	-0.89	-0.51
Saxony-Anhalt	-0.94	-1.19	-0.80	-0.54
Bremen	0.75	-0.30	-0.79	-0.58
Mecklenburg-Vorpommern	-0.61	-0.61	-0.53	-0.83

Connectedness	1989 – 1995	1996 – 2003	2004 – 2008	2009 – 2012
Saarland	0.42	0.26	0.15	1.15
Hamburg	0.56	-0.25	0.86	1.08
Bremen	0.54	1.13	-0.29	0.62
Schleswig-Holstein	0.47	0.67	0.15	0.43
Lower Saxony	-0.08	0.34	0.05	0.37
Baden-Wuertemberg	0.33	0.19	0.70	0.35
Rhineland-Palatinate	0.49	0.59	0.71	0.25
Bavaria	0.97	1.01	0.70	0.21
Hesse	0.16	0.35	0.00	0.18
North Rhine-Westphalia	0.31	-0.12	0.41	0.14
Berlin	-0.82	-0.69	-0.78	-0.14
Brandenburg	-1.20	-0.81	-0.69	-0.47
Saxony	-0.05	-0.63	-0.44	-0.79
Thuringia	-0.19	-0.68	-0.50	-0.90
Mecklenburg-Vorpommern	-0.74	0.00	0.17	-1.01
Saxony-Anhalt	-1.18	-1.34	-1.20	-1.46

The table shows scores on the three domains of social cohesion over time. The five colors designate the top tier (dark blue =), second tier (blue =), middle tier (light blue =), fourth tier (yellow =) and bottom tier (orange =).

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after unification (e.g., Bavaria was on par with most East German states), but social relations improved steadily in the West and deteriorated in the East, thereby contributing to the current clear-cut divide.

Connectedness, the second cohesion domain, is strongest in Saarland and Hamburg, and lowest in Saxony-Anhalt and Mecklenburg-Vorpommern. Like social relations, connectedness exhibits a generally negative trend in East Germany (except Brandenburg) and a generally positive one in the West (except Bavaria, North Rhine-Westphalia, and Rhineland-Palatinate). No explicit trend can be detected for Bremen.

Finally, the two southern states of Bavaria and Baden-Württemberg lead the field by a large margin in the domain of focus on the common good. This is the only domain where the former West and East federal states are more mixed: The large middle group includes Brandenburg and Saxony along with a number of West federal states. Bremen joins the remaining East German states in the fourth and lowest tier. The fifth tier is empty, since the distribution of scores on this domain exhibits the lowest degree of polarization.

7.3 Determinants of Cohesion

Which regional characteristics are associated with the level of cohesion across the 16 federal states? We attempt to answer this question drawing on evidence from the following thematic sets: wealth and economic situation; income inequality and the welfare state; spatial structure; demography; diversity; culture and values.

In analogy to the approach in the international comparison (see Chap. 5), the analyses apply time-lagged correlations. Due to the lack of consistent data on regional characteristics over the entire time frame of the Social Cohesion Radar (1989–2012), data on the regional characteristics stem from the period 2004–2008, which corresponds to Wave 3, whereas cohesion scores refer to the latest period, Wave 4 (2009–2012). Despite being correlational in nature, this time-lagged analytical framework increases the plausibility of attributing causality.

We control for the level of wealth (GDP per capita), as many of the regional characteristics may go hand in hand with average income, just as on the international level. In addition, the analyses control for the former East–West divide, because the East and West German federal states continue to differ systematically in many aspects. This additional control has been done with effect coding: The West German federal states take the value of 1, Berlin 0 (since it has been divided until 1990), and the East German states −1.

Table 7.5 presents the evidence. We interpret here only the last column, which displays the associations of cohesion and the regional characteristics after controlling for both GDP per capita and the East–West divide.

As to the thematic set wealth and economic situation, the evidence points to a very high and significant positive correlation between GDP per capita and social cohesion ($r = 0.60$). Richer federal states tend to be more cohesive. As expected,

Table 7.5 Correlations of overall cohesion index with relevant regional characteristics

	Bivariate correlation of overall index of cohesion (2009 – – 2012) with …	Partial correlation after adjusting for GDP	Partial correlation after adjusting for GDP and East-West divide	Source of data (cause)
Level of wealth and economic situation				
Bruttoinlandsprodukt (ln)	0.87 ***		0.60 **	SP (2013)
Unemployment rate	-0.75 ***	-0.60 **	-0.12	SP (2013)
Inequality and the welfare state				
Income inequality	0.88 ***	0.48 *	0.25	SP (2013)
Poverty rate (national line)	-0.67 ***	-0.55 **	-0.30	SP (2013)
Poverty rate (regional line)	0.32	-0.37	-0.47 *	SP (2013)
Spatial structure				
% agricultural land	-0.54 **	-0.15	-0.60 **	SP (2013)
% population in peripheral area	-0.84 ***	-0.53 **	-0.40	BBR (2010)
% population in towns and cities	0.65 ***	0.11	0.44 *	BBR (2010)
Demography				
Population density	0.40	0.04	0.44 *	SP (2013)
Average age	-0.84 ***	-0.63 ***	-0.37	SP (2013), own calculations
Age heterogeneity	0.43 *	0.34	-0.46 *	SP (2013), own calculations
Diversity				
% Migrants	0.88 ***	0.49 *	0.49 *	SP (2013)
Culture and values				
Importance of religion in life	0.77 ***	0.65 ***	0.26	WVS (2009), EVS (2011)
Self-reported degree of religiosity	0.76 ***	0.45 *	-0.27	Bertelsmann Stiftung (2013)
Belonging to religious community	0.69 ***	0.54 **	-0.33	Bertelsmann Stiftung (2013)
Competition is good	0.23	-0.28	-0.24	WVS (2009), EVS (2011)
Self-enhancement	-0.02	-0.18	0.05	ESS (2012b, 2012c, 2012d)

The table displays the correlation coefficient r for the bivariate correlation and for the partial correlations after adjustment for gross domestic product as well as the East-West divide. Significance of the correlations: in the case of two-tailed tests * significant at the 10 percent level, ** significant at the five percent level, and *** significant at the one percent level.

the relationship between the unemployment rate and cohesion goes in the negative, but does not reach significance. Both results correspond to the findings from the international study.

Among the characteristics related to inequality and the welfare state, only the poverty rate, as defined along a regional-specific poverty line, correlates negatively with the level of social cohesion ($r = -0.47$). The degree of income inequality appears not to be of central importance to social cohesion across the German federal states; it even tends to have a positive effect, whereas on the national level income inequality emerged as one of the main threats to cohesion.

The characteristic profile of the city-states Berlin, Bremen, and Hamburg suggests that the spatial structure may play a role in shaping social cohesion on the regional level. The effects of several indicators of urbanization tend to support this impression. Social cohesion is weaker in federal states that have a larger share of agricultural land ($r = -0.60$) and stronger in federal states that have a larger share of their population living in towns and cities ($r = 0.44$). These results contradict the widespread impression of the pastoral idyll in the countryside. The positive effect of urbanization on regional cohesion is in line with recent findings of Welzel (2013): Urbanization along with other aspects of individualization go together with more empathy, solidarity, and community spirit. According to Welzel, these characteristics should be understood as a sign of rising personal freedom in the arrangement of interpersonal social relations. It appears that urban spatial structures offer more opportunities for building social networks and civic participation, which are two components of social cohesion.

As to the demography of the federal states, population density correlates positively with social cohesion ($r = 0.44$). This finding complements the just discussed effect of urbanization. In contrast, population density did not exhibit an association with the national level of social cohesion. Despite the negative tendency, there is no effect of average age. However, stark variations in the age composition of the population, as measured with the standard deviation of age, play out negatively on the degree of social cohesion across the federal states ($r = -0.46$). People of similar age find it perhaps easier to integrate their social networks and participate in communal life. In a certain way, this finding is puzzling and needs additional research: Typically we found that more diversity in a geopolitical entity either does not affect social cohesion or affects it positively. Here, i.e., within Germany, we find a negative relationship between age diversity in the population and social cohesion on the regional level.

As to ethnic diversity, the evidence speaks of a *positive* influence of the presence of migrants on the level of social cohesion ($r = 0.49$). Does this finding mean that migrants strengthen the social fabric, or alternatively, that the host group becomes more cohesive as a protective reaction to the growing ethnic diversity? A check on the association of the share of migrants with the strength of the dimension acceptance of diversity points to the first interpretation: People become significantly more tolerant in more diverse federal states ($r = 0.64$). This finding contradicts the widespread popular belief that migrants weaken cohesion as well as the studies that describe such an effect (e.g. Leigh 2006; Putnam 2000, 2007).

Finally, we explore the relationships of regional cohesion with culture and values. In contrast to the results of the international comparison, which pointed to a negative effect of the importance of religion in daily life on social cohesion, religion does not play a role for regional cohesion. This holds for all three measures of religiosity we used: The importance of religion in life, the degree of personal religiosity as well as the belonging to a religious community, although the latter two measures exhibit a negative but insignificant tendency. Values also seem not to matter for the regional level of social cohesion. Whether people in the federal states of Germany are more or less competitive, or whether they subscribe more or less to self-enhancement values is irrelevant for social cohesion.

7.4 Subjective Well-Being as Outcome

Is regional cohesion also good for the subjective well-being of each and every individual? The theoretical premises and structure of the analysis correspond to those of the international comparison. Since the EQLS lacks a proper geographical differentiation by federal states, we use the German data from the World Value Survey (WVS 2009, 2015) and the European Value Study (EVS 2011).

The WVS and EVS (WEVS) provide five relevant samples from Germany, fielded in 1997, 1999, 2006, 2008, and 2013. This enables us to cover three cohesion waves. The analyses pool three time-lagged pairs of waves: cohesion in Wave 1 (1989–1995) with WEVS data from 1997 and 1999, cohesion in Wave 2 (1996–2003) with WEVS data from 2006 and 2008, and cohesion in Wave 3 (2004–2008) with the latest wave of the World Value Survey from 2013. This strategy increases the plausibility of causal inferences. After listwise deletion for the missing values, we arrive at a working sample of 9,807 individuals nested within 48 (3×16) federal-state-by-wave units. Since there is lack of consistent data over time on macro-level characteristics such as the regional income inequality level or the unemployment rate, we control only for regional prosperity, measured with GDP per capita (SP 2013). Time-wise, it refers to the waves of cohesion.

The WVS and EVS include tried-and-tested items on happiness and life satisfaction: "Taking all things together, would you say you are: very happy, quite happy, not very happy, not at all happy" and "All things considered, how satisfied are you with your life as a whole these days?". The life satisfaction item has a response scale from 1 (dissatisfied) to 10 (satisfied). The two items correlate strongly and significantly at $r\ (9{,}805) = 0.61$, $p < 0.01$. Cronbach's alpha is sufficiently high at 0.75. We therefore combine happiness and life satisfaction, after an appropriate rescaling of the items, like we did in the international comparison.

First, we explore the association of social cohesion and subjective well-being on the aggregate level, and then proceed to multi-level analysis in order to study the effect of social cohesion on the well-being of individuals.

Table 7.6 Regression of subjective well-being

	1997, 1999		2006, 2008		2013	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Cohesion	0.77 ***	0.78 ***	0.77 ***	0.73 ***	0.56 **	0.54 *
ln (GDP)		-0.05		0.11		0.03
N (federal states)	16	16	16	16	16	16
R^2	0.60	0.60	0.60	0.61	0.31	0.31

The table shows standardized estimates from multiple OLS regression. Significance of the estimates in the case of two-sided tests:
* p < .10, ** p < .05, *** p < .01.

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7.4.1 *More Cohesive Regions Are Happier on Average*

Table 7.6 presents the regression estimates for each time-lagged pair of waves separately. The results are to a large extent consistent with the findings from the international comparison. Social cohesion is positively related with the aggregate level of well-being across the 16 federal states in each of the three waves studied. This holds true even after regional economic prosperity has been controlled for; the latter is—in contrast to the international comparison—in no wave significant.

7.4.2 *Individual Subjective Well-Being Is Higher in More Cohesive Regions*

Next, we explore to what extent social cohesion in the German federal states influences *individual* well-being. In order to isolate possible effects of the composition of the population, we control for a number of individual characteristics known to influence well-being. These are: gender with men as a reference category; age and its quadratic effect (both continuous); marital status, with married and cohabiting respondents forming the reference category as compared to the separated, widowed, and divorced on the one hand, and singles on the other; level of education, with those who completed primary or lower education serving as a reference group in comparison to those who completed secondary and tertiary degrees; employment status, with those active in the labor market serving as a reference group in comparison to the inactive respondents (unemployed, retired, homemakers, students, and others). Due to many missing values on the income variable, we are compelled not to control for it.

The evidence is presented in Table 7.7. Based on the empty model, in which there is only an intercept that is permitted to vary at the higher level, we calculate the intra-class correlation coefficient to be $\rho = 0.04$. This renders the overall

Table 7.7 Multi-level regression of subjective well-being (intra-German comparison)

	I	F
Level: Province by wave		
Cohesion index		0.45 ***
ln (GDP)		0.00
Level: Individual		
Female	0.15 ***	0.15 ***
Age (years)	-0.09 ***	-0.09 ***
Age (quadratic effect)	0.00 ***	0.00 ***
Marital status: Married	ref.	ref.
Separated/Widowed/Divorced	-1.08 ***	-1.08 ***
Single	-0.76 ***	-0.77 ***
Education: Primary or lower	ref.	ref.
Secondary	0.24 ***	0.24 ***
Tertiary	0.48 ***	0.48 ***
Active in labor market	ref.	ref.
Inactive in labor market	-0.53 ***	-0.53 ***
Intercept	9.17 ***	9.16 ***
Slope variance (Intercept)	0.13	0.07
Residual variance (Intercept)	3.47	3.47
N_2 (Federals state by wave)	48	48
N_1 (Individual)	9,807	9,807
R_2^2 (Federal state by wave)	0.13	0.53
R_1^2 (Individual)	0.08	0.08

The table shows unstandardized estimates from multi-level regression. Significance of the estimates in the case of two-sided tests: * p < .10, ** p < .05, *** p < .01.

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contextual effect of the region on subjective well-being as weak, unlike in the international comparison. Nevertheless, the effect of cohesion on well-being remains, even after controlling for GDP. The higher the degree of regional cohesion, the happier and more satisfied with life the citizens are. In fact, it is social cohesion rather than regional affluence which makes people happy. Hence, the principle that cohesion boosts individual happiness applies also to the regional level, not only to the national one.

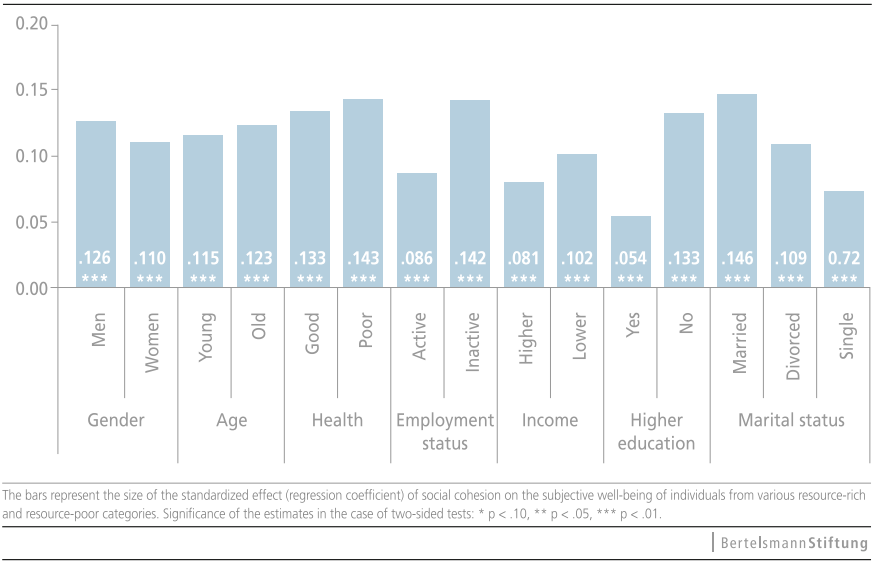

Fig. 7.2 Impact of cohesion on subjective well-being for groups of resource-rich and resource-poor individuals

7.4.3 Are Cohesive Regions Good for Everyone?

We finally contrast the effect of social cohesion on subjective well-being for resource-rich and resource-poor groups, distinguishing along the following lines, with vulnerable groups mentioned second:

- Gender—male versus female;
- Age—young (18–64 years old) versus old (65 years old or more);
- Self-reported health[2]—good (very good, good) versus poor health (fair, poor, very poor);
- Labor market status—active (employed) versus inactive (unemployed, retired, other status);
- Income level—higher (Steps 6–10) versus lower (Steps 1–5);
- Level of education—completed versus not completed tertiary education;
- Marital status—married versus separated/divorced/widowed versus single;

The effect of cohesion on subjective well-being has been measured separately for each group. The evidence is summarized in Fig. 7.2; the full model results can be found in Tables A.20 and A.21 of the Appendix.

[2]The questionnaire item reads: "All in all, how would you describe your state of health these days? Would you say it is… very good, good, fair, poor, very poor".

The positive effect of social cohesion on individual well-being remains present in all groups, regardless of being resource-rich or resource-poor. The only exception is the group of highly educated people for whom the positive effect is insignificant. In other words, the well-being of highly educated Germans does not depend on the degree of regional cohesion, although the well-being of their less educated counterparts does. In the case of all the other groups, regional cohesion boosts subjective well-being. However, the sizes of the effects of cohesion exhibit some variation from one social category to another. Cohesion is most conducive to the happiness and life satisfaction of the married ($\beta = 0.146$), those who report poorer health ($\beta = 0.143$), the inactive in the labor market ($\beta = 0.142$), and those without higher education ($\beta = 0.133$). In contrast, cohesion has the smallest effect on the happiness and life satisfaction of the highly educated (not significant), singles, and those active in the labor market. This partially suggests that vulnerable groups—as defined by health, employment status, and education—are particularly sensitive to regional cohesion.

In summary, whereas societal cohesion is good for *all* social groups (cf. Chap. 6), regional cohesion is good for *almost all* groups and neutral for some. Additionally, and more importantly in theory, whereas societal cohesion raises the subjective well-being of all social groups *fairly equally*, regional cohesion has a *differential* impact in that resource-poor groups typically benefit more than resource-rich groups. This suggests that vulnerable groups compensate for their lack of individual resources mainly by drawing on collective resources ("solidarity") at the regional level.

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Chapter 8
Conclusion and Outlook

Abstract The last chapter of the book opens with a concise account of the conceptual and methodological premises of the Social Cohesion Radar. It also summarizes the core empirical findings on both national and regional cohesion with respect to level and trend, regimes, determinants and outcomes. We point to the main limitations of our approach, namely the inability to identify absolute standings and trends, and suggest the collection of dedicated primary data as a sustainable solution. Last but not least, we advocate for the extension of the Social Cohesion Radar in two directions. Given the centrality of people's place of residence in daily life, students of cohesion can get a more in-depth understanding through microscopic studies on finer administrative divisions of nation states. On the other hand, large-scale international comparisons of countries from different geographical regions, cultural backgrounds, and levels of economic and political development seem highly relevant for worldwide collaborative practices to promote social cohesion and thereby, a happier life for everyone.

Keywords Social cohesion · Summary · Directions for future research · Limitations

In this final chapter we summarize the key findings of Bertelsmann Stiftung's Social Cohesion Radar, discuss its limitations, and propose directions for its continuation in the future.

8.1 Summary and Discussion

The numerous recent scholarly and institutional contributions on the topic of social cohesion have provided valuable insights from different angles, but with that they have unavoidably introduced a considerable degree of confusion. The present book attempted to offer a much needed systematic account on the aspects and dynamics

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of social cohesion as well as its driving forces and outcomes. It is a collection of the knowledge gained within the framework of the Social Cohesion Radar, a social reporting initiative of Bertelsmann Stiftung.

Grounded in an extensive literature review of previous contributions, the book developed a streamlined conceptualization of social cohesion. It defines cohesion as the intersection of the most relevant components of social interaction. Social cohesion is the quality of social cooperation and togetherness of a collective, defined in geopolitical terms, that is expressed in the attitudes and behaviors of its members. Three core aspects characterize a cohesive society: resilient social relations, positive emotional connectedness between its members and the community, and a pronounced focus on the common good. Each of these three components, in turn, unfolds into three dimensions. Social relations encompass the strength of social networks, the degree to which people trust each other, and the extent to which diversity is accepted. Connectedness stretches across the strength of people's identification with their social entity (country, state, province, etc.), the degree to which they trust major institutions, and their perception of fairness in society. A focus on the common good manifests itself in the level of solidarity and helpfulness, people's willingness to abide by social rules, and civic participation.

We deem this nine-fold dimensionalization more instructive and easier to interpret than two-by-two conceptualizations such as those of Chan et al. (2006) or Dickes et al. (2009). Instead of focusing on abstract dichotomies between horizontal (socio-cultural) and vertical (political) dimensions, or between subjective (attitudinal) and objective (behavioral) dimensions, we propose nine topical dimensions subsumable under three domains of social interaction. Our concept incorporates both attitudinal and behavioral modes of interaction through horizontal (social relations), vertical (connectedness), and cross-cutting ties (focus on the common good), and at the same time decreases the level of abstraction.

The definition deliberately excludes material wealth, social inequality, values, and well-being, thereby simplifying the concept and enabling an investigation on determinants and outcomes. Particularly the exclusion of values and of family ties orients the concept of cohesion towards an all-inclusive, universalistic mode, much in line with the Durkheimian understanding of organic solidarity as rooted in diversity and far-reaching mutual interdependence. Though the concept recognizes the multifaceted heterogeneity present in developed societies, it at the same time leaves room for a traditional form of togetherness by incorporating identification as manifested through feelings of attachment and belonging to the geopolitical entity.

The Social Cohesion Radar operationalized the concept in a comparison of cohesion at the national level for 34 EU and OECD countries and in another at the regional level for the 16 federal states of Germany. Besides giving an account on the current level of cohesion, both studies tracked its progression over a period of almost 25 years, from 1989 to 2012, in four separate waves. Particularly the latter research aim necessitated a reliance on secondary data sources. The studies employed data from representative large-scale international comparative surveys,

expert ratings, and institutions. The blend of these sources aimed at achieving a balance between subjective and objective accounts of the pertinent social reality. An additional balance was sought for between indicators of normative/evaluative and neutral/descriptive character.

Secondary data turned out to be a double-edged sword. On the one hand, secondary data enabled us to use tried and tested indicators for the measurement of the nine dimensions and to track the development of social cohesion for nearly a quarter of a century back. On the other hand, the occasional unavailability of indicators for a country or in a year as well as the vastly different measurement units of the indicators lead us to prefer the method of reflective measurement for the dimensions and the method of formative index building for the indices. The latter essentially assumes that e.g. the overall index of cohesion is composed of nine building blocks, or nine dimensions, each of which adds a unique aspect and is therefore indispensable, regardless of empirical fit. In simpler terms, we averaged the country scores on the nine dimensions to produce the overall index of cohesion. In contrast, reflective measurement warrants the interchangeability of the indicators over time based on their empirical fit. This preserved the conceptual content of the pertinent dimensions despite the occasional use of different indicators. However, the factor analytical foundation of reflective measurement resulted in relativity in the dimension scores and precluded the possibility to make absolute statements. Thus, the scores of a country on the dimensions and consequently, its scores on the overall index of cohesion or the three domains should be interpreted as relative standings in comparison to the rest of the countries. It is not possible to derive a country rating, but only a relative ranking.

The inability to identify absolute trends is the biggest limitation of the Social Cohesion Radar. We cannot answer the seemingly easy question "Has social cohesion in this country been declining or increasing?" independently of other countries. A future goal of the Radar could be to strive for absolute comparability, also across time periods. This would only be possible with a dedicated survey through primary data collection or with a high-quality secondary data source that covers all countries of interest. Unfortunately, such a source does not exist. Even the Gallup World Poll, with its broad scope regarding both topical and country coverage, does not provide indicators on trust in people in the most recent years and well-suited indicators on identification.

Despite this limitation, Bertelsmann Stiftung's Social Cohesion Radar provided the much-needed comprehensive empirical basis of social cohesion. The most important findings can be summarized as follows.

The Scandinavian countries emerge on top of the overall ranking, outstanding with regard to nearly every dimension. The traditional immigration and English-speaking societies of North America and Oceania also show a high level of cohesion. So do the small, wealthy Western European countries of Switzerland, Luxembourg, and the Netherlands. The larger Western European countries score average. At the bottom of the ranking are the countries of Southeastern Europe and

two of the three Baltic nations, Latvia and Lithuania. A West-East divide could be observed also in the intra-German comparison, with the former West federal states exhibiting a higher level of cohesion than the former East ones.

An analysis on the dimensional patterns reveals six distinct regimes of cohesion. The Nordic regime and that of the English-speaking and small Western European countries achieve high to very high scores on all nine dimensions. The countries belonging to these two regimes closely correspond to Esping-Andersen's (1990) social democratic and liberal ideal-typical welfare regimes, respectively. The Northwestern European regime emphasizes most clearly Durkheim's organic type of solidarity, asserting mutual interdependence in any form and downplaying identification as a remnant of mechanic solidarity. The regime of Mediterranean and Eastern European countries achieves ranks in the middle group only with respect to acceptance of diversity and identification. The last two, the Levantine regime and the Southeastern European one, come closest to Durkheim's mechanic type of solidarity: emphasizing national identification as the only social glue.

The findings point to considerable stability and little change in the country rankings on the overall index of cohesion over time. Over the four periods of the study, cohesion seems to be rather a constant characteristic of societies that does not change overnight or even from one year to the next. This observation holds true also in the intra-German comparison.

Next, three conditions most strongly promote social cohesion: prosperity, an equitable income distribution, and technological progress towards a knowledge society. Additionally we observe that a higher level of religiosity tends to be detrimental to a strong, cohesive society. Furthermore, the national level of cohesion is not undermined by globalization and ethnic diversity. On the regional level of the German federal states, we find that higher cohesion goes hand in hand with more prosperity, lower poverty, stronger urbanization, and a higher percentage of immigrants.

In end effect, cohesion transforms into happiness in terms of life satisfaction both on the national and regional level. Stronger cohesion means higher subjective well-being of the geopolitical entity and of individuals. What is more, vulnerable societal groups tend to benefit more from a stronger regional level of cohesion. These results show how important cohesion is for quality of life. Taken together, the evidence points to a model of sustainable happiness. Higher prosperity, lower income inequality and less poverty, and progress towards a knowledge society promote social cohesion, which in turn boosts the well-being of everyone.

Aside from the comprehensive evidence of the Social Cohesion Radar, specific policy recommendations are beyond its scope. Although the insights may seem to pave a smooth road to higher quality of life, we must admit there is no one-size-fits-all approach. Countries like Sweden and the United States achieve similarly high levels of social cohesion, but under very different conditions and in very different ways. Virtually every country has at least some weak point, and these are the areas that social policy interventions should target.

8.2 Future Research

The larger part of this book focused on the application of Bertelsmann Stiftung's Social Cohesion Radar to the case of nation states. Nation states, or countries, continue to be regarded as the typical units of societal cooperation. State and society do not fully overlap, but state borders still demarcate an important territory of societal life. Supranational influences could be important to a certain degree, too—particularly in Europe. Yet, from a sociological perspective, the residence in a nation state is likely to largely define the social life of people: The social structures in which people are embedded set the frame for social processes.

If we additionally zoom in towards the very place of residence, we will find there most of the everyday interactions that shape people's behavior and attitudes. The Social Cohesion Radar successfully applied its conceptualization to a comparative study on the 16 federal states of Germany. One of the key findings is that vulnerable societal groups benefit more from a stronger level of regional cohesion than resource-rich groups. Finer administrative divisions of nation states appear, thus, of central importance to an in-depth understanding of social cohesion, its determinants and outcomes. Such a microscopic approach is one direction in which the scope of the Social Cohesion Radar can be extended. In the case of Germany, relevant lower level units than the federal states could be the 402 administrative districts (*Landkreise*) and independent cities (*Kreisfreie Städte*). In an even more microscopic approach, one could chart social cohesion in the districts of a city or even in neighborhoods within districts. The biggest challenge would be collecting the necessary data. Typically, national surveys do not allow zooming into smaller units than federal states (even here we had to cope with large standard errors, especially in the city-states). Thus, microscopic cohesion studies are only possible with primary data. For an assessment of its generalizability, it would be most valuable to initiate a microscopic study based on the approach of Bertelsmann Stiftung's Social Cohesion Radar.

A second direction for extending the focus of the Social Cohesion Radar is towards countries of other geographic regions, different cultural backgrounds, and various levels of development. We are aware that the inclusion of more countries unavoidably increases the degree of heterogeneity, rendering a strict etic approach to measuring social cohesion across different regions of the world an inadmissible research endeavor. Not everywhere, for example, is immigration or electoral voting relevant. We therefore propose the strategy of latent conceptual equivalence (cf. Boehnke et al. 2014). It asserts the possibility of measuring one and the same construct, e.g. a dimension of cohesion, with different indicators in different populations without having to forgo comparability. We already successfully applied this strategy in the international comparison of the 34 EU and OECD countries, where we used different indicators over the four time periods in order to measure the same dimensions of cohesion.

The pursuit of large-scale international comparisons is an important goal for several reasons. On the one hand, they can offer insights on how other societies motivate their people to work together for their own good and that of their societies. Learning from the experiences of other countries and collaborating worldwide can certainly help overcome difficult global challenges ahead. Of further importance are promoting public debate and contributing to academic research on the topic of cohesion. On the other hand, technological progress and the globalized economy present us with an increasingly interconnected world; such that the butterfly effect as described by chaos theory (small causes can have large effects) gains relevance. The spreading of the Arab spring could serve as an example of how societal change spills over an entire region and how it affects the rest of the world. Establishing a universal tool of the widest possible coverage for monitoring social cohesion at regular time intervals is essential for formulating targeted social policy measures towards promoting social cohesion and thereby, a happier life for everyone.

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Appendix

See Figs. A.1, A.2 and A.3.

See Tables A.1, A.2, A.3, A.4, A.5, A.6, A.7, A.8, A.9, A.10, A.11, A.12, A.13, A.14, A.15, A.16, A.17, A.18, A.19, A.20 and A.21.

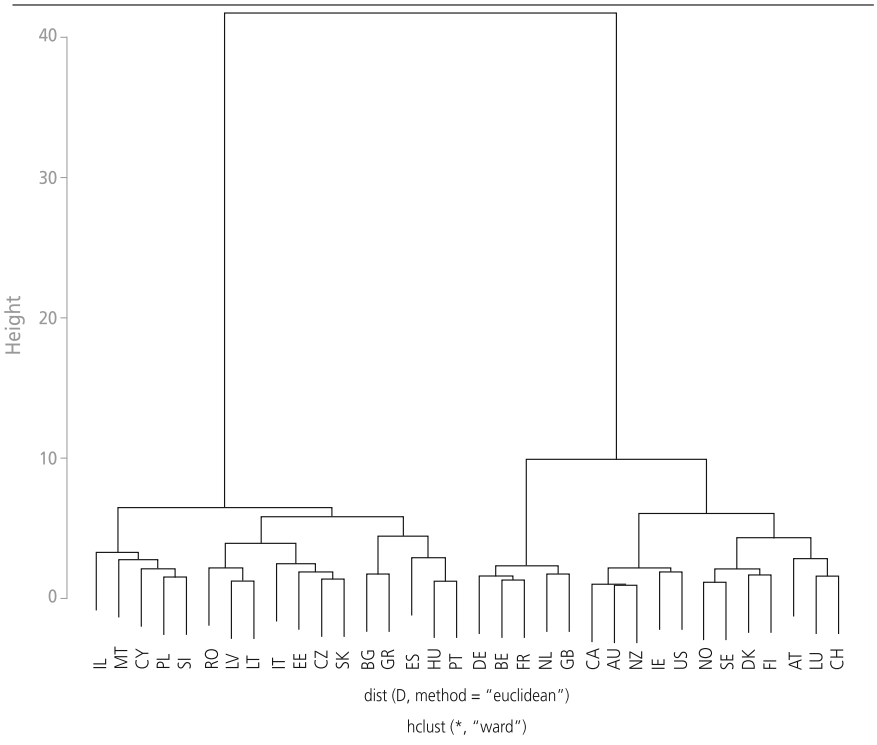

Fig. A.1 Dendrogram from hierarchical clustering of countries in Wave 3 (2004–2008)

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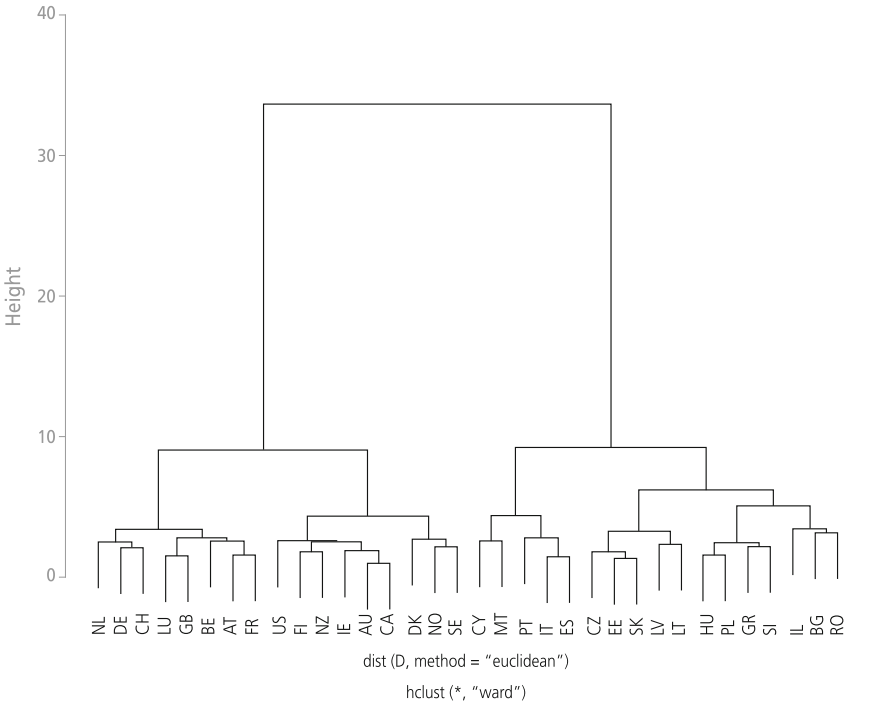

The dendrogram shows a hierarchy of clustering by a chain of merges of most similar countries as computed with the R-function hclust for hierarchical cluster analysis, applying Ward's criterion of minimal variance and the Euclidean distance matrix of country profiles. The y-axis represents the level of dissimilarity of the most dissimilar cluster. The two emphasized clusters (blue and red) have been chosen at "natural" levels of dissimilarity, where the dissimilarity of the next level cluster is comparably large.

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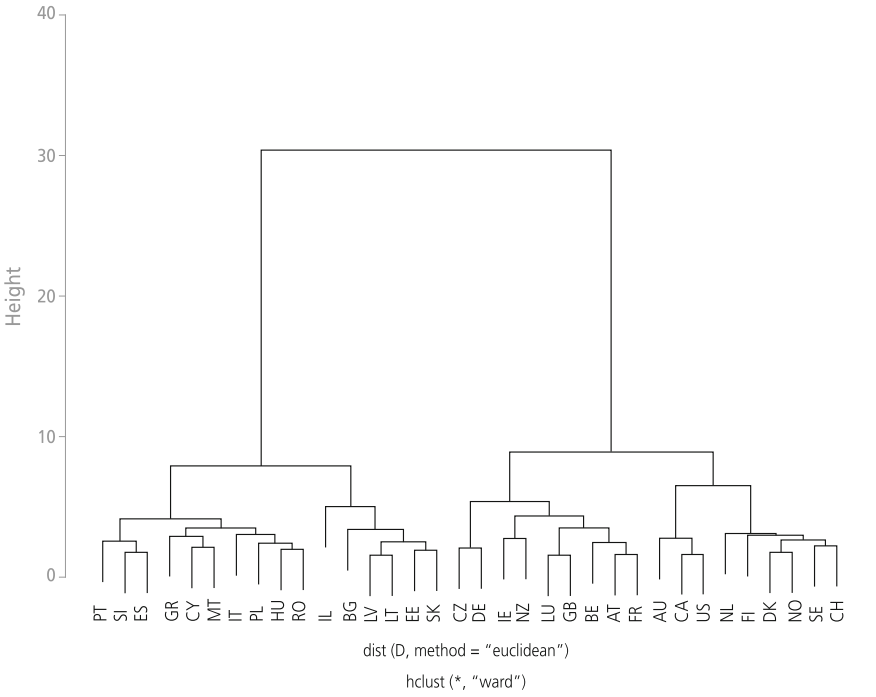
Fig. A.2 Dendrogram from hierarchical clustering of countries in Wave 2 (1996–2003)



The dendrogram shows a hierarchy of clustering by a chain of merges of most similar countries as computed with the R-function hclust for hierarchical cluster analysis, applying Ward's criterion of minimal variance and the Euclidean distance matrix of country profiles. The y-axis represents the level of dissimilarity of the most dissimilar cluster. The two emphasized clusters (blue and red) have been chosen at "natural" levels of dissimilarity, where the dissimilarity of the next level cluster is comparably large.

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Fig. A.3 Dendrogram from hierarchical clustering of countries in Wave 1 (1989–1995)

Table A.1 Country coverage by data source and time period

	1st survey period (1989 – 1995)										2nd survey period (1996 – 2003)										3rd survey period (2004 – 2008)										4th survey period (2009 – 2012)									
	WEVS	EQLS	ESS	GWP	EB	ISSP	ISJP	ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB	ISSP	ISJP	ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB	ISSP	ISJP	ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB	ISSP	ISJP	ICRG	S&B	ICVS	VAN
Australia	WEVS							ICRG		ICVS	VAN						ISSP		ICRG	S&B	ICVS	VAN	WEVS			GWP				ICRG	S&B		VAN				GWP		ISSP		ICRG	S&B		VAN
Austria	WEVS				EB			ICRG			VAN	WEVS	EQLS	ESS		EB	ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS		GWP	EB	ISSP		ICRG	S&B		VAN
Belgium	WEVS				EB			ICRG		ICVS	VAN	WEVS	EQLS	ESS		EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Bulgaria	WEVS						ISJP	ICRG			VAN	WEVS	EQLS				ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Canada	WEVS							ICRG		ICVS	VAN	WEVS					ISSP		ICRG	S&B	ICVS	VAN	WEVS			GWP				ICRG	S&B		VAN				GWP				ICRG	S&B		VAN
Cyprus								ICRG			VAN		EQLS				ISSP		ICRG	S&B		VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B		VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Czech Republic	WEVS						ISJP	ICRG		ICVS	VAN	WEVS	EQLS	ESS			ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B		VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Denmark	WEVS				EB			ICRG			VAN	WEVS	EQLS	ESS		EB			ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Estonia	WEVS						ISJP			ICVS	VAN	WEVS	EQLS						ICRG	S&B		VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Finland	WEVS				EB			ICRG		ICVS	VAN	WEVS	EQLS	ESS		EB			ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
France	WEVS				EB			ICRG			VAN	WEVS	EQLS	ESS		EB	ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Germany	WEVS				EB		ISJP	ICRG			VAN	WEVS	EQLS	ESS		EB	ISSP		ICRG	S&B		VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Greece					EB			ICRG			VAN	WEVS	EQLS	ESS		EB			ICRG	S&B		VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB			ICRG	S&B		VAN
Hungary	WEVS						ISJP	ICRG			VAN	WEVS	EQLS	ESS			ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Ireland	WEVS				EB			ICRG			VAN	WEVS	EQLS	ESS		EB			ICRG	S&B		VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B		VAN		EQLS	ESS	GWP	EB			ICRG	S&B		VAN
Israel								ICRG			VAN	WEVS		ESS			ISSP		ICRG			VAN			ESS	GWP				ICRG			VAN			ESS	GWP		ISSP		ICRG			VAN
Italy	WEVS				EB			ICRG		ICVS	VAN	WEVS	EQLS	ESS		EB			ICRG	S&B		VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS		GWP	EB	ISSP		ICRG	S&B		VAN
Latvia	WEVS										VAN	WEVS	EQLS				ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B		VAN		EQLS		GWP	EB	ISSP		ICRG	S&B		VAN
Lithuania	WEVS										VAN	WEVS	EQLS						ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS		GWP	EB			ICRG	S&B		VAN
Luxembourg					EB			ICRG			VAN	WEVS	EQLS	ESS		EB			ICRG	S&B		VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B		VAN		EQLS		GWP	EB			ICRG	S&B		VAN
Malta	WEVS							ICRG			VAN	WEVS	EQLS						ICRG	S&B	ICVS	VAN	WEVS	EQLS		GWP				ICRG	S&B		VAN		EQLS		GWP				ICRG	S&B		VAN
Netherlands	WEVS				EB		ISJP	ICRG		ICVS	VAN	WEVS	EQLS	ESS		EB			ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B		VAN		EQLS	ESS	GWP	EB			ICRG	S&B		VAN
New Zealand								ICRG		ICVS	VAN	WEVS					ISSP		ICRG	S&B		VAN	WEVS			GWP				ICRG	S&B		VAN				GWP		ISSP		ICRG	S&B		VAN
Norway	WEVS							ICRG			VAN	WEVS		ESS			ISSP		ICRG	S&B		VAN	WEVS	EQLS	ESS	GWP				ICRG	S&B	ICVS	VAN			ESS	GWP		ISSP		ICRG	S&B		VAN
Poland	WEVS						ISJP	ICRG		ICVS	VAN	WEVS	EQLS	ESS			ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Portugal	WEVS				EB			ICRG			VAN	WEVS	EQLS	ESS		EB			ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Romania	WEVS							ICRG			VAN	WEVS	EQLS						ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B		VAN		EQLS		GWP	EB			ICRG	S&B		VAN
Slovakia	WEVS						ISJP	ICRG		ICVS	VAN	WEVS	EQLS						ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B		VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Slovenia	WEVS						ISJP			ICVS	VAN	WEVS	EQLS	ESS			ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B		VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Spain	WEVS				EB					ICVS	VAN	WEVS	EQLS	ESS		EB	ISSP			S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB				S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP			S&B		VAN
Sweden	WEVS				EB			ICRG		ICVS	VAN	WEVS	EQLS	ESS		EB	ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
Switzerland	WEVS							ICRG			VAN	WEVS		ESS					ICRG	S&B	ICVS	VAN	WEVS		ESS	GWP				ICRG	S&B		VAN			ESS	GWP		ISSP		ICRG	S&B		VAN
United Kingdom	WEVS				EB		ISJP	ICRG			VAN	WEVS	EQLS	ESS		EB	ISSP		ICRG	S&B	ICVS	VAN	WEVS	EQLS	ESS	GWP	EB			ICRG	S&B	ICVS	VAN		EQLS	ESS	GWP	EB	ISSP		ICRG	S&B		VAN
United States	WEVS						ISJP	ICRG			VAN	WEVS					ISSP		ICRG	S&B	ICVS	VAN	WEVS			GWP				ICRG	S&B		VAN				GWP		ISSP		ICRG	S&B		VAN

The table shows the sources of indicators used during the various survey periods. Explanation of abbreviations: EB = Eurobarometer, EQLS = European Quality of Life Survey, ESS = European Social Survey, GWP = Gallup World Poll, ICRG = International Country Risk Guide, ICVS = International Crime Victims Survey, ISJP = International Social Justice Project, ISSP = International Social Survey Program, S&B = Schneider & Buehn (2012), VAN = Vanhanen (2011), WEVS = World Values Survey or European Values Study.

Table A.2 Final factor solution for Dimension 1.1—Social networks

DIMENSION 1.1 – SOCIAL NETWORKS		
Variable	Label	Loading
Wave 1, Cronbach's α = n.a.		
d11_a002_wevs_w1	Important in life: friends	1
Wave 2, Cronbach's α = 0.820		
d11_sclmeet_ess_w2	How often socially meet with friends, relatives or colleagues	0.823
d11_sprtsrsmtr_eqls_w2	Support if needed advice on serious personal or family matter	0.78
d11_a002_wevs_w2	Important in life: friends	0.723
Wave 3, Cronbach's α = 0.817		
d11_fltlnl_ess_w3	How much time during past week you felt lonely	-0.833
d11_a002_wevs_w3	Important in life: friends	0.829
d11_wp27_gwp_w3	(Have relatives or friends you) Count on to help	0.705
d11_sclmeet_ess_w3	How often socially meet with friends, relatives or colleagues	0.631
d11_sprtsrsmtr_eqls_w3	Support if needed advice on serious personal or family matter	0.4
Wave 4, Cronbach's α = 0.738		
d11_wp27_gwp_w4	(Have relatives or friends you) Count on to help	0.897
d11_q46b_eqls_w4	How much time during past week you felt lonely	-0.783
d11_sprtsrsmtr_eqls_w4	Support if needed advice on serious personal or family matter	0.502
d11_sclmeet_ess_w4	How often socially meet with friends, relatives or colleagues	0.468

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.3 Final factor solution for Dimension 1.2—Trust in people

DIMENSION 1.2 – TRUST IN PEOPLE		
Variable	Label	Loading
Wave 1, Cronbach's α = n.a.		
d12_a165_wevs_w1	People can be trusted	1.000
Wave 2, Cronbach's α = 0.935		
d12_pplfair_ess_w2	People try to be fair	0.955
d12_pplhlp_ess_w2	Most of the time people helpful	0.941
d12_a165_wevs_w2	People can be trusted	0.850
Wave 3, Cronbach's α = 0.947		
d12_pplfair_ess_w3	People try to be fair	0.983
d12_pplhlp_ess_w3	Most of the time people helpful	0.931
d12_a165_wevs_w3	People can be trusted	0.887
Wave 4, Cronbach's α = 0.950		
d12_pplfair_ess_w4	People try to be fair	0.989
d12_pplhlp_ess_w4	Most of the time people helpful	0.914
d12_wp9039_gwp_w4	People can be trusted	0.903

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.4 Final factor solution for Dimension 1.3—Acceptance of diversity

DIMENSION 1.3 – ACCEPTANCE OF DIVERSITY		
Variable	Label	Loading
Wave 1, Cronbach's α = 0.798		
d13_f118_wevs_w1	Justifiable: homosexuality	0.880
d13_ethten_icrg_w1	Rating of ethnic tension (high score, low tension)	0.747
d13_religten_icrg_w1	Rating of religious tension (high score, low tension)	0.733
d13_a12406_wevs_w1	Would not like to have neighbor: immigrants/ foreign workers	-0.551
d13_a12402_wevs_w1	Would not like to have neighbor: of different race	-0.523
Wave 2, Cronbach's α = 0.877		
d13_a12402_wevs_w2	Would not like to have neighbor: of different race	-0.941
d13_a12406_wevs_w2	Would not like to have neighbor: immigrants/ foreign workers	-0.903
d13_religten_icrg_w2	Rating of religious tension (high score, low tension)	0.836
d13_freehms_ess_w2	Gays and lesbians free to live life as they wish	0.595
d13_ethten_icrg_w2	Rating of ethnic tension (high score, low tension)	0.434
d13_imueclt_ess_w2	Country's cultural life enriched by immigrants	0.277
Wave 3, Cronbach's α = 0.855		
d13_wp103_gwp_w3	City/area good place for: Racial/ethnic minorities	0.893
d13_a12406_wevs_w3	Would not like to have neighbor: immigrants/foreign workers	-0.864
d13_a12402_wevs_w3	Would not like to have neighbor: of different race	-0.834
d13_wp105_gwp_w3	City/area good place for: Gay or lesbian people	0.788
d13_freehms_ess_w3	Gays and lesbians free to live life as they wish	0.520
d13_imueclt_ess_w3	Country's cultural life enriched by immigrants	0.502
d13_religten_icrg_w3	Rating of religious tension (high score, low tension)	0.501
d13_ethten_icrg_w3	Rating of ethnic tension (high score, low tension)	0.334
Wave 4, Cronbach's α = 0.684		
d13_q27c_eqls_w4	Country's culture undermined by immigrants	-0.815
d13_religten_icrg_w4	Rating of religious tension (high score, low tension)	0.787
d13_wp103_gwp_w4	City/area good place for: Racial/ethnic minorities	0.600
d13_ethten_icrg_w4	Rating of ethnic tension (high score, low tension)	0.541
d13_wp105_gwp_w4	City/area good place for: Gay or lesbian people	0.445
d13_freehms_ess_w4	Gays and lesbians free to live life as they wish	0.270

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.5 Final factor solution for Dimension 2.1—Identification

DIMENSION 2.1 – IDENTIFICATION		
Variable	Label	Loading
Wave 1, Cronbach's α = 0.875		
d21_g006_wevs_w1	How proud of nationality	0.887
d21_attach_eb_w1	How attached to country	0.877
Wave 2, Cronbach's α = 0.910		
d21_g006_wevs_w2	How proud of nationality	0.926
d21_attach_eb_w2	How attached to country	0.902
Wave 3, Cronbach's α = 0.705		
d21_attach_eb_w3	How attached to country	0.865
d21_g006_wevs_w3	How proud of nationality	0.596
d21_wp1325_gwp_w3	Ideally, would permanently move to another country	-0.512
Wave 4, Cronbach's α = 0.724		
d21_attach_eb_w4	How attached to country	0.843
d21_wp1325_gwp_w4	Ideally, would permanently move to another country	-0.477

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.6 Final factor solution for Dimension 2.2—Trust in institutions

DIMENSION 2.2 – TRUST IN INSTITUTIONS		
Variable	Label	Loading
Wave 1, Cronbach's α = 0.752		
d22_e069_06_wevs_w1	Confidence in police	0.952
d22_e069_17_wevs_w1	Confidence in justice system	0.614
d22_poldang_icvs_w1	Didn't report a crime, because feared/did not like the police	-0.527
Wave 2, Cronbach's α = 0.776		
d22_e069_07_wevs_w2	Confidence in parliament	0.938
d22_e069_12_wevs_w2	Confidence in political parties	0.849
d22_poldang_icvs_w2	Didn't report a crime, because feared/did not like the police	-0.686
d22_e069_06_wevs_w2	Confidence in police	0.563
d22_e069_17_wevs_w2	Confidence in justice system	0.298
Wave 3, Cronbach's α = 0.904		
d22_wp138_gwp_w3	Confidence in judicial system	0.861
d22_wp144_gwp_w3	Honesty of elections	0.839
d22_e069_07_wevs_w3	Confidence in parliament	0.829
d22_wp112_gwp_w3	Confidence in local police	0.821
d22_wp140_gwp_w3	Confidence in health care	0.794
d22_e069_12_wevs_w3	Confidence in political parties	0.791
d22_wp141_gwp_w3	Confidence in financial institutions	0.663
d22_poldang_icvs_w3	Didn't report a crime, because feared/did not like the police	-0.277
Wave 4, Cronbach's α = 0.937		
d22_trstprl_eqls_w4	Trust in parliament	0.976
d22_trstprt_ess_w4	Trust in political parties	0.937
d22_wp138_gwp_w4	Confidence in judicial system	0.889
d22_wp112_gwp_w4	Confidence in local police	0.816
d22_wp144_gwp_w4	Honesty of elections	0.786
d22_wp140_gwp_w4	Confidence in health care	0.678
d22_wp141_gwp_w4	Confidence in financial institutions	0.637

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.7 Final factor solution for Dimension 2.3—Perception of fairness

DIMENSION 2.3 – PERCEPTION OF FAIRNESS		
Variable	Label	Loading
Wave 1, Cronbach's α = 0.593		
d23_v162bi_isjp_w1	Get paid about what deserved	0.650
d23_corr_icrg_w1	Corruption (high score, low corruption)	0.648
Wave 2, Cronbach's α = 0.880		
d23_v17_issp_w2	To get ahead need to be corrupt	-0.904
d23_tnsnrp_eqls_w2	Tensions between the rich and the poor	-0.819
d23_corr_icrg_w2	Corruption (high score, low corruption)	0.760
d23_q30b_eqls_w2	To get ahead, forced to do things that are not correct	-0.741
d23_pjustbi_issp_w2	Pay about just for me	0.685
d23_gincdif_ess_w2	Government should reduce differences in income levels	-0.657
d23_v13bi_issp_w2	I earn what I deserve	0.642
Wave 3, Cronbach's α = 0.894		
d23_wp145_a_gwp_w3	Corruption within businesses	-0.938
d23_corr_icrg_w3	Corruption (high score, low corruption)	0.916
d23_q30b_eqls_w3	To get ahead, forced to do things that are not correct	-0.730
d23_gincdif_ess_w3	Government should reduce differences in income levels	-0.683
d23_tnsnrp_eqls_w3	Tensions between the rich and the poor	-0.559
Wave 4, Cronbach's α = 0.917		
d23_v17_issp_w4	To get ahead need to be corrupt	-0.938
d23_wp145_a_gwp_w4	Corruption within businesses	-0.902
d23_gincdif_ess_w4	Government should reduce differences in income levels	-0.886
d23_corr_icrg_w4	Corruption (high score, low corruption)	0.855
d23_tnsnrp_eqls_w4	Tensions between the rich and the poor	-0.696
d23_v13bi_issp_w4	I earn what I deserve	0.683
d23_pjustbi_issp_w4	Pay about just for me	0.612

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.8 Final factor solution for Dimension 3.1—Solidarity and helpfulness

DIMENSION 3.1 – SOLIDARITY AND HELPFULNESS		
Variable	Label	Loading
Wave 1, Cronbach's α = n.a.		
d31_e037_wevs_w1	Government provide for people (vs. people for themselves)	-1.000
Wave 2, Cronbach's α = 0.470		
d31_hlpppl_ess_w2	Help others excl. work/voluntary organizations	0.557
d31_e037_wevs_w2	Government provide for people (vs. people for themselves)	-0.552
Wave 3, Cronbach's α = 0.837		
d31_wp108_gwp_w3	Donated money	0.969
d31_hlpoth_ess_w3	Help others excl. family/work/voluntary organizations	0.795
d31_wp110_gwp_w3	Helped a stranger	0.779
d31_e037_wevs_w3	Government provide for people (vs. people for themselves)	-0.384
Wave 4, Cronbach's α = 0.933		
d31_wp110_gwp_w4	Helped a stranger	0.924
d31_q22a_eqls_w4	Unpaid voluntary work through community and social services	0.909
d31_wp108_gwp_w4	Donated money	0.890

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.9 Final factor solution for Dimension 3.2—Respect for social rules

DIMENSION 3.2 – RESPECT FOR SOCIAL RULES		
Variable	Label	Loading
Wave 1, Cronbach's α = n.a.		
d32_safestreet_icvs_w1	Feel safe after dark on the street	1.000
Wave 2, Cronbach's α = 0.738		
d32_safestreet_icvs_w2	Feel safe after dark on the street	0.770
d32_shadow_sb_w2	Size of shadow economy	-0.760
Wave 3, Cronbach's α = 0.801		
d32_q24_2_eqls_w3	To what extent people obey traffic laws	0.913
d32_shadow_sb_w3	Size of shadow economy	-0.751
d32_wp113_gwp_w3	Feel safe walking alone at night	0.581
Wave 4, Cronbach's α = 0.871		
d32_trfowr_ess_w4	How wrong to commit traffic offense	-0.947
d32_shadow_sb_w4	Size of shadow economy	-0.836
d32_wp113_gwp_w4	Feel safe walking alone at night	0.699

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.10 Final factor solution for Dimension 3.3—Civic participation

DIMENSION 3.3 – CIVIC PARTICIPATION		
Variable	Label	Loading
Wave 1, Cronbach's α = 0.676		
d33_a004_wevs_w1	Important in life: politics	0.876
d33_e025_wevs_w1	Signed a petition	0.644
d33_e023_wevs_w1	Interest in politics	0.592
d33_part_van_w1	Voting turnout in elections or referenda	0.180
Wave 2, Cronbach's α = 0.831		
d33_wrkorg_ess_w2	Worked in association or organisation	0.911
d33_ctpltcn_eqls_w2	Contacted politician or public official	0.907
d33_badge_ess_w2	Worn or displayed campaign badge/sticker	0.658
d33_q23b_eqls_w2	Served on committee or done voluntary work for organization	0.658
d33_a004_wevs_w2	Important in life: politics	0.570
d33_e025_wevs_w2	Signed a petition	0.557
d33_e023_wevs_w2	Interest in politics	0.378
d33_part_van_w2	Voting turnout in elections or referenda	0.205
Wave 3, Cronbach's α = 0.875		
d33_e025_wevs_w3	Signed a petition	0.937
d33_wrkorg_ess_w3	Worked in association or organization	0.854
d33_wp109_gwp_w3	Volunteered time to organization	0.799
d33_badge_ess_w3	Worn or displayed campaign badge/sticker	0.768
d33_e023_wevs_w3	Interest in politics	0.649
d33_wp111_gwp_w3	Voiced opinion to public official	0.643
d33_a004_wevs_w3	Important in life: politics	0.457
d33_part_van_w3	Voting turnout in elections or referenda	0.392
Wave 4, Cronbach's α = 0.864		
d33_wrkorg_ess_w4	Worked in association or organization	0.874
d33_q23c_eqls_w4	Signed a petition	0.773
d33_badge_ess_w4	Worn or displayed campaign badge/sticker	0.755
d33_polintr_ess_w4	Interest in politics	0.680
d33_wp111_gwp_w4	Voiced opinion to public official	0.673
d33_wp109_gwp_w4	Volunteered time to organization	0.595
d33_part_van_w4	Voting turnout in elections or referenda	0.430

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.11 Pan-temporal final factor solution for Domain 1—Social relations

SOCIAL RELATIONS		
Variable	Label	Loading
Dimension 1.1 – Social Networks, Cronbach's α = 0.881		
d11_wp27_gwp	(Have relatives or friends you) Count on to help	0.758
d11_q46b_eqls	How much time during past week you felt lonely	-0.836
d11_sclmeet_ess	How often socially meet with friends, relatives or colleagues	0.650
d11_sprtsrsmtr_eqls	Support if needed advice on serious personal or family matter	0.524
d11_a002_wevs	Important in life: friends	0.825
d11_fltlnl_ess	How much time during past week you felt lonely	-0.837
Dimension 1.2 – Trust in People, Cronbach's α = 0.951		
d12_wp9039_gwp	People can be trusted	0.904
d12_pplfair_ess	People try to be fair	0.991
d12_pplhlp_ess	Most of the time people helpful	0.914
d12_a165_wevs	People can be trusted	0.836
Dimension 1.3 – Acceptance of Diversity, Cronbach's α = 0.891		
d13_wp103_gwp	City/area good place for: Racial/ethnic minorities	0.878
d13_wp105_gwp	City/area good place for: Gay or lesbian people	0.846
d13_ethten_icrg	Rating of ethnic tension (high score, low tension)	0.320
d13_freehms_ess	Gays and lesbians free to live life as they wish	0.764
d13_q27c_eqls	Country's culture undermined by immigrants	-0.433
d13_religten_icrg	Rating of religious tension (high score, low tension)	0.501
d13_a12402_wevs	Would not like to have neighbor: of different race	-0.891
d13_a12406_wevs	Would not like to have neighbor: immigrants/ foreign workers	-0.894
d13_f118_wevs	Justifiable: homosexuality	0.514
d13_imueclt_ess	Country's cultural life enriched by immigrants	0.483

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.12 Pan-temporal final factor solution for Domain 2—Connectedness

CONNECTEDNESS		
Variable	Label	Loading
Dimension 2.1 – Identification, Cronbach's α =0.690		
d21_wp1325_gwp	Ideally, would permanently move to another country	0.250
d21_g006_wevs	How proud of nationality	0.834
d21_attach_eb	How attached to country	-0.800
Dimension 2.2 – Trust in Institutions, Cronbach's α = 0.947		
d22_wp112_gwp	Confidence in local police	0.825
d22_wp138_gwp	Confidence in judicial system	0.901
d22_wp140_gwp	Confidence in health care	0.729
d22_wp141_gwp	Confidence in financial institutions	0.674
d22_wp144_gwp	Honesty of elections	0.795
d22_trstprl_eqls	Trust in parliament	0.949
d22_trstprt_ess	Trust in political parties	0.935
d22_e069_06_wevs	Confidence in police	0.757
d22_e069_07_wevs	Confidence in parliament	0.685
d22_e069_12_wevs	Confidence in political parties	0.681
d22_e069_17_wevs	Confidence in justice system	0.762
d22_poldang_icvs	Didn't report a crime, because feared/did not like the police	-0.511
Dimension 2.3 – Perception of Fairness, Cronbach's α =0.933		
d23_wp145_a_gwp	Corruption within businesses	0.922
d23_corr_icrg	Corruption (high score, low corruption)	-0.856
d23_gincdif_ess	Government should reduce differences in income levels	0.782
d23_pjustbi_issp	Pay about just for me	-0.703
d23_tnsnrp_eqls	Tensions between the rich and the poor	0.616
d23_v13bi_issp	I earn what I deserve	-0.668
d23_v17_issp	To get ahead need to be corrupt	0.902
d23_q30b_eqls	To get ahead, forced to do things that are not correct	0.637
d23_v162bi_isjp	Get paid about what deserved	-0.876

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.13 Pan-temporal final factor solution for Domain 3—Focus on the common good

FOCUS ON THE COMMON GOOD		
Variable	Label	Loading
Dimension 3.1 – Solidarity and Helpfulness, Cronbach's α = 0.907		
d31_wp108_gwp	Donated money	0.900
d31_wp110_gwp	Helped a stranger	0.877
d31_q22a_eqls	Unpaid voluntary work through community and social services	0.906
d31_e037_wevs	Government provide for people (vs. people provide for themselves)	-0.418
d31_hlpoth_ess	Help others excl. family/work/voluntary organizations	0.802
d31_hlpppl_ess	Help others excl. work/voluntary organizations	0.733
Dimension 3.2 – Respect for Social Rules, Cronbach's α = 0.873		
d32_wp113_gwp	Feel safe walking alone at night	0.880
d32_shadow_sb	Size of shadow economy	-0.611
d32_trfowr_ess	How wrong to commit traffic offense	-0.687
d32_q24_2_eqls	To what extent people obey traffic laws	0.651
d32_safestreet_icvs	Feel safe after dark on the street	0.938
Dimension 3.3 – Civic Participation, Cronbach's α = 0.907		
d33_wp109_gwp	Volunteered time to organization	0.707
d33_wp111_gwp	Voiced opinion to public official	0.663
d33_badge_ess	Worn or displayed campaign badge/sticker	0.729
d33_part_van	Voting turnout in elections or referenda	0.385
d33_polintr_ess	Interest in politics	0.675
d33_q23b_eqls	Served on committee or done voluntary work for organization	0.556
d33_q23c_eqls	Signed a petition	0.817
d33_wrkorg_ess	Worked in association or organization	0.865
d33_a004_wevs	Important in life: politics	0.537
d33_ctpltcn_eqls	Contacted politician or public official	0.650
d33_e023_wevs	Interest in politics	0.506
d33_e025_wevs	Signed a petition	0.840

Full wording of items and details on data preparation are available in the Codebook for International Comparison at www.social-cohesion.net.

Table A.14 Bivariate correlations of overall index of cohesion with country characteristics

	Variable with Cohesion in Later Wave					Cohesion with Variable in Later Wave				
			Wave and (*n*) for Variable (row) and Cohesion (column)					Wave and (*n*) for Variable (row) and Cohesion (column)		
	r	*N*	2	3	4	*r*	*N*	1	2	3
Gross domestic product (ln)	0.75 ***	102	1 (34)	2 (34)	3 (34)	0.78 ***	102	2 (34)	3 (34)	4 (34)
Human Development Index	0.66 ***	102	1 (31)	2 (34)	3 (34)	0.75 ***	102	2 (34)	3 (34)	4 (34)
Unemployment rate	-0.44 ***	102	1 (32)	2 (34)	3 (34)	-0.52 ***	102	2 (34)	3 (34)	4 (34)
Income inequality	-0.24 ***	102	1 (32)	2 (34)	3 (34)	-0.28 ***	68	2 (34)	3 (34)	4 (0)
Poverty rate	-0.24 **	102	1 (16)	2 (18)	3 (34)	-0.25 ***	102	2 (18)	3 (34)	4 (34)
Strength of the welfare state	0.28 ***	102	1 (26)	2 (28)	3 (28)	0.23 **	102	2 (28)	3 (28)	4 (28)
Population density	-0.05	102	1 (32)	2 (34)	3 (34)	-0.03	102	2 (34)	3 (34)	4 (34)
Age dependency ratio	0.17 *	102	1 (34)	2 (34)	3 (34)	0.34 ***	102	2 (34)	3 (34)	4 (34)
Knowledge Index	0.85 ***	102	1 (34)	2 (34)	3 (34)	0.81 ***	68	2 (34)	3 (34)	4 (0)
KOF Index of globalization	0.59 ***	102	1 (34)	2 (34)	3 (34)	0.57 ***	102	2 (34)	3 (34)	4 (34)
Percentage of immigrants	0.24 ***	102	1 (34)	2 (34)	3 (34)	0.34 ***	102	2 (34)	3 (34)	4 (34)
Percentage of religious people	-0.23 **	102	1 (29)	2 (31)	3 (32)	-0.38 ***	102	2 (31)	3 (32)	4 (16)
Strength of postmaterialist values	0.62 ***	102	1 (29)	2 (32)	3 (32)	0.67 ***	102	2 (32)	3 (32)	4 (16)
Strength of materialist values	-0.71 ***	102	1 (29)	2 (32)	3 (32)	-0.71 ***	102	2 (32)	3 (32)	4 (16)
Life satisfaction	0.80 ***	34	1 (0)	2 (0)	3 (34)	0.83 ***	68	2 (0)	3 (34)	4 (34)

The table presents the bivariate correlation coefficient (*r*) of a pertinent characteristic with the overall index of cohesion, the number of cases (N) in the full maximum likelihood estimation as well as the raw number of cases (in brackets) in each pair of waves. For example, the Gross domestic product of wave 1 correlated with cohesion of wave 2 at r = 0.75. Cohesion of wave 1 correlated with the Gross domestic product of wave 2 at r = 0.78.

Table A.15 Bivariate correlations for Domain 1—Social relations

	Dimension 1.1 Social Networks		Dimension 1.2 Trust in People		Dimension 1.3 Acceptance of Diversity	
	V -> D	D -> V	V -> D	D -> V	V -> D	D -> V
Gross domestic product (ln)[1]	0.69 ***	0.73 ***	0.57 ***	0.57 ***	0.43 ***	0.51 ***
Human Development Index	0.64 ***	0.77 ***	0.57 ***	0.65 ***	0.34 ***	0.47 ***
Unemployment rate	-0.29 ***	-0.45 ***	-0.30 ***	-0.37 ***	-0.23 ***	-0.22 **
Income inequality	-0.26 ***	-0.24 **	-0.31 ***	-0.37 ***	-0.09	-0.29 ***
Poverty rate	-0.23 **	-0.16	-0.35 ***	-0.34 ***	-0.26 **	-0.31 ***
Strength of the welfare state	0.31 ***	0.17	0.36 ***	0.22 **	0.16	0.27 ***
Population density	-0.05	-0.10	-0.13	-0.12	-0.23 ***	-0.18 *
Age dependency ratio	0.24 ***	0.46 ***	0.30 ***	0.42 ***	-0.18 *	-0.01
Knowledge Index	0.84 ***	0.77 ***	0.82 ***	0.77 ***	0.48 ***	0.54 ***
KOF Index of globalization	0.56 ***	0.50 ***	0.52 ***	0.51 ***	0.45 ***	0.52 ***
Percentage of immigrants	0.28 ***	0.36 ***	0.19 **	0.22 **	-0.07	0.03
Percentage of religious people	-0.31 ***	-0.43 ***	-0.39 ***	-0.47 ***	-0.27 **	-0.49 ***
Strength of postmaterialist values	0.58 ***	0.62 ***	0.50 ***	0.49 ***	0.48 ***	0.59 ***
Strength of materialist values	-0.71 ***	-0.67 ***	-0.67 ***	-0.60 ***	-0.51 ***	-0.54 ***
Life satisfaction	0.72 ***	0.80 ***	0.74 ***	0.75 ***	0.25	0.43 ***

The table shows the bivariate correlation coefficient *r*.
Significance of the correlations in the case of two-sided tests: *** $p \leq .01$, ** $p \leq .05$, * $p \leq .10$.
V -> D denotes that the variable to the left has been correlated with the pertinent dimension of cohesion in a later wave. Alternatively, D -> V denotes that the pertinent dimension of cohesion has been correlated with the variable to the left in a later wave.

Table A.16 Bivariate correlations for Domain 2—Connectedness

	Dimension 2.1 Identification		Dimension 2.2 Trust in Institutions		Dimension 2.3 Perception of Fairness	
	V -> D	D -> V	V -> D	D -> V	V -> D	D -> V
Gross domestic product (ln)[1]	0.04	0.05	0.67 ***	0.69 ***	0.70 ***	0.69 ***
Human Development Index	0.07	0.06	0.48 ***	0.53 ***	0.60 ***	0.67 ***
Unemployment rate	-0.04	-0.03	-0.36 ***	-0.49 ***	-0.47 ***	-0.49 ***
Income inequality	0.15	0.23 **	-0.33 ***	-0.30 ***	-0.22 **	-0.24 **
Poverty rate	0.31 ***	0.34 ***	-0.35 ***	-0.33 ***	-0.24 **	-0.25 ***
Strength of the welfare state	-0.24 **	-0.21 **	0.35 ***	0.30 ***	0.24 **	0.21 *
Population density	-0.22 **	-0.1	0.15	0.16 *	-0.04	-0.07
Age dependency ratio	0.03	-0.07	0.18 *	0.24 ***	0.17 *	0.37 ***
Knowledge Index	0.03	0.01	0.62 ***	0.51 ***	0.79 ***	0.77 ***
KOF Index of globalization	-0.03	-0.09	0.49 ***	0.54 ***	0.55 ***	0.54 ***
Percentage of immigrants	0.01	0.05	0.19 **	0.22 **	0.25 ***	0.38 ***
Percentage of religious people	0.39 ***	0.33 ***	-0.24 ***	-0.21 **	-0.25 ***	-0.43 ***
Strength of postmaterialist values	-0.05	0.00	0.46 ***	0.40 ***	0.58 ***	0.57 ***
Strength of materialist values	0.03	-0.03	-0.52 ***	-0.42 ***	-0.68 ***	-0.65 ***
Life satisfaction	-0.02	0.07	0.76 ***	0.58 ***	0.82 ***	0.79 ***

The table shows the bivariate correlation coefficient *r*.
Significance of the correlations in the case of two-sided tests: *** $p \leq .01$, ** $p \leq .05$, * $p \leq .10$.
V -> D denotes that the variable to the left has been correlated with the pertinent dimension of cohesion in a later wave. Alternatively, D -> V denotes that the pertinent dimension of cohesion has been correlated with the variable to the left in a later wave.

Table A.17 Bivariate correlations for Domain 3—Focus on the common good

	Dimension 3.1 Solidarity and Helpfulness		Dimension 3.2 Respect for Social Rules		Dimension 3.3 Civic Participation	
	V -> D	D -> V	V -> D	D -> V	V -> D	D -> V
Gross domestic product (ln)[1]	0.65 ***	0.62 ***	0.70 ***	0.77 ***	0.65 ***	0.45 ***
Human Development Index	0.57 ***	0.58 ***	0.59 ***	0.69 ***	0.63 ***	0.51 ***
Unemployment rate	-0.51 ***	-0.55 ***	-0.41 ***	-0.47 ***	-0.39 ***	-0.3 ***
Income inequality	-0.09	-0.32 ***	-0.23 ***	-0.28 ***	-0.26 ***	-0.01
Poverty rate	0.04	-0.27 ***	-0.35 ***	-0.28 ***	-0.24 **	-0.07
Strength of the welfare state	0.08	0.25 ***	0.28 **	0.29 ***	0.41 ***	0.05
Population density	0.16 *	0.15	-0.06	0.02	0.04	0.05
Age dependency ratio	0.09	0.28 ***	0.07	0.29 ***	0.28 ***	0.27 ***
Knowledge Index	0.67 ***	0.58 ***	0.76 ***	0.78 ***	0.71 ***	0.39 ***
KOF Index of globalization	0.45 ***	0.48 ***	0.59 ***	0.59 ***	0.42 ***	0.14
Percentage of immigrants	0.29 **	0.30 ***	0.28 ***	0.38 ***	0.23 **	0.32 ***
Percentage of religious people	-0.07	-0.23 **	-0.18 *	-0.30 ***	-0.27 ***	-0.27 ***
Strength of postmaterialist values	0.59 ***	0.58 ***	0.59 ***	0.66 ***	0.56 ***	0.38 ***
Strength of materialist values	-0.62 ***	-0.54 ***	-0.62 ***	-0.66 ***	-0.64 ***	-0.41 ***
Life satisfaction	0.75 ***	0.68 ***	0.65 ***	0.80 ***	0.79 ***	0.71 ***

The table shows the bivariate correlation coefficient *r*.
Significance of the correlations in the case of two-sided tests: *** $p \leq .01$, ** $p \leq .05$, * $p \leq .10$.
V -> D denotes that the variable to the left has been correlated with the pertinent dimension of cohesion in a later wave. Alternatively, D -> V denotes that the pertinent dimension of cohesion has been correlated with the variable to the left in a later wave.

Table A.18 Multi-level regression of subjective well-being on social cohesion (international comparison) for groups of resource-rich and resource-poor individuals

	Gender		Age		Health satisfaction		Employment	
	Men	Women	Young	Old	Satisfied	Dissatisfied	Active	Inactive
Level: Country by wave								
Cohesion index	0.25 ***	0.32 ***	0.27 ***	0.34 ***	0.27 ***	0.35 ***	0.28 ***	0.29 ***
ln (GDP)	0.25 ***	0.13	0.16 *	0.22 **	0.17 *	0.30 **	0.16 *	0.18 *
Gini index	0.00	-0.00	-0.00	0.01	-0.00	-0.00	-0.00	-0.00
Unemployment rate	-0.00	0.00	-0.00	0.00	-0.01	0.01	-0.00	-0.00
Level: Individual								
Female			0.12 ***	0.16 ***	0.10 ***	0.18 ***	0.08 ***	0.19 ***
Age (years)	-0.03 ***	-0.03 ***			-0.04 ***	-0.03 ***	-0.03 ***	-0.03 ***
Age (quadratic effect)	0.00 ***	0.00 ***			0.00 ***	0.00 ***	0.00 ***	0.00 ***
Marrital status: Married	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Separated/Widowed/Divorced	-0.64 ***	-0.47 ***	-0.56 ***	-0.43 ***	-0.56 ***	-0.58 ***	-0.55 ***	-0.53 ***
Single	-0.42 ***	-0.39 ***	-0.34 ***	-0.31 ***	-0.40 ***	-0.61 ***	-0.41 ***	-0.37 ***
Education: Primary or lower	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Secondary	0.09 ***	0.06 ***	0.05 ***	0.06 **	0.09 ***	0.11 ***	0.05 *	0.08 ***
Tertiary	0.10 ***	0.15 ***	0.10 ***	0.03	0.16 ***	0.16 ***	0.12 ***	0.11 ***
Employed	ref.	ref.			ref.	ref.		
Unemployed	-0.65 ***	-0.40 ***			-0.56 ***	-0.47 ***		
Retired	0.13 ***	0.16 ***			0.13 ***	0.03		
Other employment status	0.12 ***	0.13 ***			0.09 ***	-0.14 ***		
Easy-difficult to make ends meet	0.36 ***	0.36 ***	0.39 ***	0.34 ***	0.39 ***	0.46 ***	0.35 ***	0.40 ***
Health satisfaction	0.29 ***	0.30 ***	0.29 ***	0.30 ***			0.29 ***	0.29 ***
Intercept	1.94 **	3.08 ***	2.19 **	1.73	5.43 ***	2.41 *	3.00 ***	2.37 **
Slope variance (Intercept)	0.06 ***	0.06 ***	0.07 ***	0.08 ***	0.08 ***	0.10 ***	0.07 ***	0.07 ***
Residual variance (Intercept)	1.90 ***	2.10 ***	1.98 ***	2.23 ***	1.90 ***	3.05 ***	1.73 ***	2.31 ***
N_2 (Country by wave)	82	82	82	82	82	82	82	82
N_1 (Individual)	38,568	52,200	69,285	21,483	69,610	21,158	43,173	47,595

The table shows unstandardized estimates from multi-level regression. Significance of the estimates in the case of two-sided tests: * $p < .10$, ** $p < .05$, *** $p < .01$.

Table A.19 Multi-level regression of subjective well-being on social cohesion (international comparison) for groups of resource-rich and resource-poor individuals

	Income situation		Higher education		Marital status		
	Easy	Difficult	Yes	No	Married	Separated/ Divorced/ Widowed	Single
Level: Country by wave							
Cohesion index	0.34 ***	0.40 ***	0.23 ***	0.30 ***	0.27 ***	0.42 ***	0.25 ***
ln (GDP)	0.06	0.23 *	0.05	0.21 **	0.22 **	0.08	0.14
Gini index	-0.01	-0.01	-0.01	-0.00	-0.00	0.00	-0.00
Unemployment rate	0.01	0.00	-0.01	0.00	-0.00	0.01	0.01
Level: Individual							
Female	0.09 ***	0.14 ***	0.14 ***	0.11 ***	0.07 ***	0.29 ***	0.07 ***
Age (years)	-0.02 ***	-0.04 ***	-0.03 ***	-0.03 ***	-0.02 ***	-0.01 *	-0.05 ***
Age (quadratic effect)	0.00 ***	0.00 ***	0.00 ***	0.00 ***	0.00 ***	0.00 ***	0.00 ***
Marrital status: Married	ref.	ref.	ref.	ref.			
Separated/Widowed/Divorced	-0.53 ***	-0.59 ***	-0.51 ***	-0.52 ***			
Single	-0.38 ***	-0.41 ***	-0.41 ***	-0.40 ***			
Education: Primary or lower	ref.	ref.			ref.	ref.	ref.
Secondary	0.08 ***	0.14 ***			0.04 **	0.09 ***	0.17 ***
Tertiary	0.13 ***	0.33 ***			0.09 ***	0.16 ***	0.25 ***
Employed	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Unemployed	-0.35 ***	-0.72 ***	-0.44 ***	-0.53 ***	-0.50 ***	-0.41 ***	-0.63 ***
Retired	0.16 ***	0.13 ***	0.12 ***	0.16 ***	0.16 ***	0.09 **	0.11 *
Other employment status	0.10 ***	0.05 *	0.09 ***	0.10 ***	0.09 ***	-0.01	0.13 ***
Easy/difficult to make ends meet			0.30 ***	0.38 ***	0.36 ***	0.38 ***	0.34 ***
Health satisfaction	0.30 ***	0.31 ***	0.29 ***	0.29 ***	0.28 ***	0.29 ***	0.32 ***
Intercept	5.32 ***	3.28 **	4.50 ***	2.22 ***	2.19 **	2.02 *	2.62 ***
Slope variance (Intercept)	0.04 ***	0.12 ***	0.05 ***	0.07 ***	0.07 ***	0.09 ***	0.05 ***
Residual variance (Intercept)	1.63 ***	2.59 ***	1.53 ***	2.14 ***	1.85 ***	2.47 ***	1.95 ***
N_2 (Country by wave)	82	82	82	82	82	82	82
N_1 (Individual)	50,264	40,504	18,742	72,026	54,817	20,558	15,393

The table shows unstandardized estimates from multi-level regression. Significance of the estimates in the case of two-sided tests: * $p < .10$, ** $p < .05$, *** $p < .01$.

Table A.20 Multi-level regression of subjective well-being on social cohesion (intra-German comparison) for groups of resource-rich and resource-poor individuals

	Gender		Age		Health		Employment	
	Men	Women	Young	Old	Good	Poor	Active	Inactive
Level: Country by wave								
Cohesion index	0.48 ***	0.42 ***	0.44 ***	0.46 ***	0.42 ***	0.56 ***	0.29 ***	0.58 ***
ln (GDP)	0.00	0.01	0.01	-0.00	0.00	-0.00	-0.00	0.01
Level: Individual								
Female			0.24 ***	-0.02	0.11 **	0.20 **	0.07	0.23 ***
Age (years)	-0.11 ***	-0.08 ***			-0.12 ***	-0.06 ***	-0.05 ***	-0.11 ***
Age (quadratic effect)	0.00 ***	0.00 ***			0.00 ***	0.00 ***	0.00	0.00 ***
Marital status: Married	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Separated/Widowed/Divorced	-1.23 ***	-0.96 ***	-1.15 ***	-0.96 ***	-0.88 ***	-1.15 ***	-0.95 ***	-1.19 ***
Single	-0.68 ***	-0.79 ***	-0.38 ***	-0.98 ***	-0.73 ***	-1.09 ***	-0.60 ***	-0.95 ***
Education: Primary or lower	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Secondary	0.11	0.33 ***	0.30 ***	0.26 **	0.18 ***	0.14	0.28 ***	0.19 ***
Tertiary	0.41 ***	0.51 ***	0.46 ***	0.49 ***	0.41 ***	0.45 ***	0.48 ***	0.50 ***
Employment: Active	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Employment: Inactive	-0.76 ***	-0.39 ***	-0.55 ***	-0.28	-0.46 ***	-0.37 ***		
Intercept	9.46 ***	9.03 ***	6.86 ***	7.33 ***	9.63 ***	7.64 ***	8.38 ***	8.98 ***
Slope variance (Intercept)	0.07	0.06	0.07	0.17	0.07	0.05	0.07	0.09
Residual variance (Intercept)	3.44	3.48	3.40	3.73	2.61	3.99	2.68	4.18
N_2 (Federal State by wave)	48	48	48	48	48	48	48	48
N_1 (Individual)	4,502	5,305	7,680	2,127	5,058	2,795	4,844	4,963

The table shows unstandardized estimates from multi-level regression. Significance of the estimates in the case of two-sided tests: * $p < .10$, ** $p < .05$, *** $p < .01$.

Table A.21 Multi-level regression of subjective well-being on social cohesion (intra-German comparison) for groups of resource-rich and resource-poor individuals

	Income		Higher education		Marital status		
	Higher	Lower	Yes	No	Married	Separated/ Divorced/ Widowed	Single
Level: Province by wave							
Cohesion index	0.31 *	0.41 ***	0.19	0.51 ***	0.51 ***	0.45 ***	0.28 **
ln (GDP)	-0.00	-0.00	0.01	0.00	0.00	0.00	0.00
Level: Individual							
Female	0.08	0.16 ***	0.06	0.18 ***	0.10 **	0.36 ***	0.13
Age (years)	-0.05 ***	-0.11 ***	-0.10 ***	-0.09 ***	-0.07 ***	0.00	-0.13 ***
Age (quadratic effect)	0.00 ***	0.00 ***	0.00 ***	0.00 ***	0.00 ***	0.00	0.00 ***
Marital status: Married	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Separated/Widowed/Divorced	-0.90 ***	-1.07 ***	-0.90 ***	-1.12 ***			
Single	-0.73 ***	-0.78 ***	-0.95 ***	-0.71 ***			
Education: Primary or lower	ref.	ref.			ref.	ref.	ref.
Secondary	0.23 **	0.16 **			0.17 ***	0.27 **	0.54 ***
Tertiary	0.33 ***	0.33 ***			0.46 ***	0.65 ***	0.62 ***
Employment: Active	ref.	ref.	ref.	ref.	ref.	ref.	ref.
Employment: Inactive	-0.27 ***	-0.47 ***	-0.48 ***	-0.57 ***	-0.40 ***	-0.87 ***	-0.73 ***
Intercept	8.67 ***	9.47 ***	9.76 ***	9.33 ***	8.66 ***	5.06 ***	9.02 ***
Slope variance (Intercept)	0.15	0.06	0.07	0.07	0.09	0.10	0.04
Residual variance (Intercept)	2.83	3.73	3.01	3.58	3.03	4.50	3.53
N_2 (Province by wave)	48	47	47	48	48	47	48
N_1 (Individual)	2,097	4,712	1,839	7,968	5,841	1,968	1,998

The table shows unstandardized estimates from multi-level regression. Significance of the estimates in the case of two-sided tests: * $p < .10$, ** $p < .05$, *** $p < .01$.