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Social Networks and Health Inequalities

A New Perspective for Research

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 Springer

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ISBN 978-3-030-97721-4 ISBN 978-3-030-97722-1 (eBook)
<https://doi.org/10.1007/978-3-030-97722-1>

Funding Information: Deutsche Forschungsgemeinschaft

This publication is funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) – Project number 280679966, Scientific Research Network “Social Networks and Health Inequalities”.

Revised and updated translation from the German language edition: *Soziale Netzwerke und gesundheitliche Ungleichheiten* by Klärner et al., © Der/Die Herausgeber und der/die Autor(en) 2020. Published by Springer. All Rights Reserved.

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Social Networks and Health Inequalities: A New Perspective for Research



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“Tell me how much your friends earn and I’ll tell you whether you smoke, what diseases you have and how old you’re going to become!” Part of this statement should be familiar to those who are interested in the connection between social inequality and health. People of comparatively lower socioeconomic status are at higher risk of health problems and are more likely to fall ill and die earlier than those who have a higher income, a higher level of education, or a more prestigious profession. This correlation, often referred to as the “social gradient,” is well-documented and can be shown in

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(almost) all countries of the world on the basis of different health indicators (see, e.g., Mackenbach et al., 2018; Marmot, 2005).

However, the sentence does not ask about your own income, but about the income of your friends. Is this information really meaningful? Does it really make a difference to your own health which friends you have, who you surround yourself with in your everyday life and what social position these people have?

In scientific terms, this sentence establishes a connection between the social position of actors in a person's network of relationships and their own health behavior, morbidity, and mortality. The information about the social status of a person's friends—they may also be family members, colleagues, neighbors, or other more distant acquaintances—is thus intended to provide us with conclusions about health behavior, susceptibility to certain diseases and life expectancy, and possibly about stratum-specific differences in health. If family members live together and share a common household, it is likely that they will have similar health behavior, health risks and stresses, and influences on life expectancy and hereditary diseases. But do people from an individual's wider circle of friends and acquaintances also have an influence on their own health? What new perspectives and insights in connection with health and health inequality can the examination of social relationships yield?

This question will be addressed in the contributions to this anthology. The authors ask not only whether individual social relationships (such as a friend who smokes and encourages others to smoke) have an influence on individual health, but also the interaction within one's own social network. Is someone's health or health behavior more influenced by people who are similar or dissimilar? In short, the contributions in this volume ask whether the structure of social relationships—the social networks in which we are all embedded in our perception, thinking, and acting—has an influence on us in that we are more likely to feel psychologically distressed, fall ill, or die earlier than others. This also raises the question of whether the study of social networks and the occupation with sociological and now interdisciplinary network research can contribute to understanding and explaining health inequalities.

This anthology is the result of several years of collaboration between researchers from different disciplines (sociology, medical sociology, psychology, public health, education, health sciences) with different theoretical and methodological orientations. The collaboration has been funded by the German Research Foundation (DFG) as the Scientific Network "Social Networks and Health Inequalities (SoNegU)" for a period of four years since 2016. The aims of the network were (1) to make sociological network research better known, especially in the German-speaking health research community, and (2) to make the network perspective fertile for the explanation of health inequalities. The aim of this book is to present the current state of research, identify research needs, and point out perspectives for future research.

This introduction aims to show that the inclusion of the network perspective in research on health inequalities can be beneficial. The topic will be presented and discussed in more detail in the following chapters. To this end, we first introduce the basic ideas of social networks research (Sect. 1) and then give a short overview of empirical findings on health inequalities (Sect. 2). Then, in (Sect. 3), we describe the role that sociological network research can play in this context and present our own conceptual theory model where we elaborate on the role of social relationships and

social networks for the (re)production of health inequalities. The proposed model also serves as an orienting framework for many of the individual contributions in this book. At the end (Sect. 4), we give an overview of all articles.

1 The Sociological Network Research

With social networks, we take up a social science concept that is oriented toward basic assumptions in action theory, which assume that individuals do not act as “atoms” but are “embedded” in a relational network of interpersonal relationships (cf. Burt, 1982; Emirbayer, 1997; Granovetter, 1985). The relationships between actors are thereby formative for the behavior of network members (cf. e.g., Wellman, 1988). This relational approach (cf. Emirbayer & Goodwin, 1994) assumes that social processes and actions cannot be explained solely by actor-specific attributes such as sociodemographic characteristics of individuals (e.g., age, gender, ethnicity, and level of education). Rather, they can be explained by their integration into their social environment through family, friends, relatives, or acquaintances. The network perspective thus focuses on the meso-level¹ of social relationships between individuals. The social environment is then understood as a structure of social relationships that opens or restricts the scope for action and also influences, for example, the way in which the actors perceive themselves and their ability to act (cf. Gamper, 2015).

The central point here is that network research not only analyzes individual relationships or dyads, but also how individual relationships are interwoven and how relations within a network are structured (Marin & Wellman, 2011; Borgatti & Halgin, 2011).² Interacting individuals, couples, families, and other interactive units (also institutions or organizations) can thus be understood as networks actors. Cultural norms and values of actors are learned and reproduced, but also changed in socialization processes and in everyday interactions with their fellow alters.³ In the language of recent network theory, actors are “embedded” (Granovetter, 1985) in a relational network of social relationships that opens or restricts possibilities for action (see Emirbayer & Mische, 1998). Depending on the position or “embedding” of the individual in such a network and on the network composition and structure, the actors have, for example, very specific access to resources (e.g., Lin, 2008)

¹The micro-level can be understood as that of the individual actor and the macro-level as the social context (system level) and the framework conditions.

²The concept of the social network has gained popularity through social media platforms such as Facebook and Twitter. It is increasingly used in everyday language and in scientific contexts. In many studies, however, it is used merely as a metaphor for relationships or interactions, without actually looking at the structures of these relationships. Here, structural analyses and network theoretical considerations are missing. It is therefore important to bear in mind that not all works that use the concept of network also adopt a structural network perspective that we propagate here.

³In social network research, the term *alter* (plural: *alters* or sometimes *alteri*) designates the social contacts of a person, which is often called *ego*. Ego and alter are Latin words for I and the other.

and/or information (e.g., Burt, 2004; Granovetter, 1973). Thus, the social network approach is intended to make the active actions and experiences of individuals in the context of interpersonal relationships conceptually understandable and methodologically reconstructable (see chapter “[Social Network Theories: An Overview](#)”).

Although new ideas on “friendship” (Delitsch, 1900), “social circles” (Simmel, 1950), “social integration” (Moreno, 1934), “social structure” (Radcliffe-Brown, 1940), “role concept” (Nadel, 1957), or “figurations” (Elias, 1978) can already be found in classics of sociology, social anthropology, and psychology, the methodological procedure and the related structural analysis are relatively new (Freeman, 2004). In recent years, there has been very dynamic and innovative development on analysis tools for large data sets and visual network research. A wide range of specific survey and analysis methods that can be used in qualitative and quantitative research, and in method-integrative (*mixed methods*) designs, has existed for some time now. Nevertheless, the main focus is on the quantitative evaluation of network data and thus on the causal, as well as statistical, relationships (for a detailed account of the history of relational science, see Gamper, 2015). For more about this, see chapter “[Network Analysis and Health Inequalities: A Methodological Introduction](#)”.

These concepts and methods have found their way into Anglo-American social research—for example, the concepts of strong and weak relationships (Granovetter, 1973), diffusion processes of “good ideas” (Burt, 2004), the division of household chores in paired relationships (Bott, 1957), and health and social structure (Valente, 2010). However, there is still a lack of a foundation in action theory and insufficient knowledge about the mechanisms of social influence in social networks (see, e.g., Smith & Christakis, 2008; Gulati & Srivasta, 2014). There is not much research on social network and social inequalities, either (e.g., DiMaggio & Garip, 2012; Calvo-Armengol & Jackson, 2004). This is partly due to the methodological focus, namely quantitative research. Furthermore, previous research has often focused on positive, supportive relationships. The negative effects (intended or unintended) of social relationships and their structures, such as control and corruption, or the impact and dynamics of conflictual relationships (see chapter “[Negative Ties and Inequalities in Health](#)”), have hardly been investigated thus far. Furthermore, there are hardly any overview books on linking inequality, health, and networks.

2 Health Inequalities

The link between social inequalities and health is considered to be empirically well confirmed, as is evident in practically all countries where data are available (see, e.g., CSDH, 2008; Marmot, 2005; Rostila, 2013; Thurston, 2014; Vonneilich et al., 2011). Social inequalities, or disadvantages, especially in dimensions like “education,” “occupation,” and “income,” thus have a negative impact on both health status (morbidity, mortality) and health behavior (e.g., the number of people in good health and the number of people who are not)—for example, substance abuse, nutrition, and exercise (see Braveman et al., 2011; Brownson et al., 2005; Kanjilal et al., 2006;

von dem Knesebeck & Schäfer, 2009; de Walque, 2010). But other dimensions of social inequality, such as gender and migration background, have also been linked to various health indicators (Singh & Hiatt, 2006).

Current research results show considerable social differences in morbidity and mortality. We only list some examples:

- The average life expectancy of the lowest income quintile is 7.7 years below that of the highest income quintile for men and about 5.4 years for women at age 25 in Canada. Educational inequalities in life expectancy between the lowest and the highest educational level identified similar differences for men (7.8 years) but higher inequalities for women (6.7 years) (Bushnik et al., 2020). Socioeconomic inequalities in life expectancy were found in other countries such as the United States (Chetty et al., 2016; Hill & Jorgenson, 2018) and Germany (Lampert et al., 2019).
- An international systematic review showed that unemployed people have a 63% higher mortality risk compared to the total population (Roelfs et al., 2011).
- Cardiovascular disease mortality, as one of the leading causes of death worldwide, also follows a social gradient: Those with a low socioeconomic position within their life course have about twice the risk of cardiovascular disease mortality and more than twice the risk to die of this disease than those with a stable, high social status across their life (Stringhini et al., 2018). Also, other studies found that socioeconomic position was associated with cardiovascular disease mortality (Tillmann et al., 2017; Rosengren et al., 2019).
- Social differences are also evident in serious health issues such as diabetes mellitus, obesity, depressive symptoms, or cancer (cf. Lampert et al., 2013; Lange, 2014). Socioeconomic status is highly associated with risk behavior and multimorbidity (Katikireddi et al., 2017).
- Mental health problems are more common in people with a low social status (Robert Koch Institute, 2017; Silva et al., 2016).
- Social inequalities are related to differences in health care. For example, Janßen et al. (2012) found in a systematic review that 20 out of 23 reviewed studies provide clear evidence for significant links between higher social status and greater use of healthcare services and offers.
- Health behavior usually differs markedly depending on social status: the lower the social status, the higher the proportion of smokers, those who eat unhealthy food, and those who are physically inactive (Katikireddi et al., 2017; Mackenbach et al., 2017; Petrovic et al., 2018; Moor et al., 2017).
- Despite all efforts, health inequalities have hardly been reduced in recent years and decades. They have often remained constant or show an increase. This trend is evident for various outcomes such as subjective health or mortality (Mackenbach et al., 2016; Granström et al., 2015).

Different theoretical models exist to explain health inequalities (see Mackenbach et al., 2016; van Oort et al., 2005; Moor et al., 2017). Influential models are those created by Dahlgren and Whitehead (1991; Fig. 1) and Elkeles and Mielck (1997; Fig. 2). Both models place different levels of abstraction and analysis into relation to one another. Both approaches aim to clarify the influence of macrostructures. The

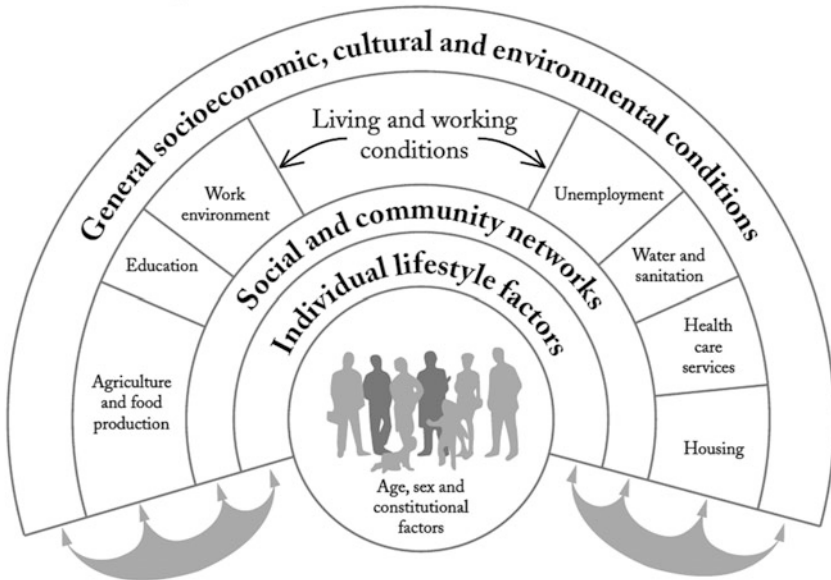


Fig. 1 Determinants of Health—Model by Dahlgren and Whitehead (1991). Source: Dahlgren & Whitehead, 2006 (first published in Dahlgren & Whitehead, 1991)

structure of social inequality consists of the micro-level, the individuals and their health status, morbidity and mortality as well as the mediators, the meso-level (e.g., education), and the macro-level (e.g., culture).

In Dahlgren and Whitehead (1991), at the social macro-level it is the general socioeconomic conditions that are important, including the economic situation and development of the respective national economy, the technical infrastructure, the legal system, and issues of peace and security. Macro-factors also include the cultural environment, which includes the political system, the media system, and the degree of availability of information, but also gender relations. The physical environment—in the form of special climatic conditions, soil quality, and abundance of raw materials—is also generally important: the state of nature.

In the model by Dahlgren and Whitehead (Fig. 1), these macro-conditions now influence the already more concrete living and working conditions of people or social groups in society. Food supply and production, education, working and living conditions, access to water, sanitary conditions, the health system, mobility, and leisure activities must be mentioned here. These living and working conditions are mediated, that is, handed down, and institutionalized by family, school, and extra-curricular socialization processes. They are reinforced or mitigated by social *and community networks*: family, friends, neighbors, colleagues, associations, and the community. *Individual lifestyles (individual lifestyle factors)*, eating and drinking habits, substance abuse, sports activities, health precautions, but also the daily

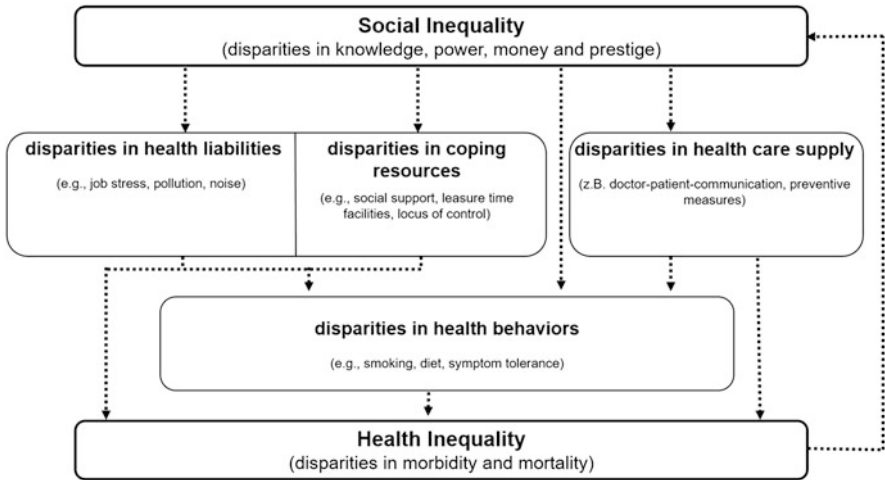


Fig. 2 Links between social and health inequalities according to Elkeles and Mielck (1997). Source: Elkeles and Mielck (1997), translated and slightly modified by the authors

rhythm of school, work, and family influence individual health, which is also determined by age, gender, and genetic make-up.

The Elkeles and Mielck (1997) model (Fig. 2) is characterized by the fact that it postulates impact paths more precisely than the model by Dahlgren and Whitehead and refers to general sociological theories of the reproduction of social inequality (see also Röding, 2018).

The model is based on the classic vertical social inequalities according to education, occupational status, and income—the socioeconomic status or position of a person or a social group in a social inequality structure (class, stratum, milieu, etc.). The connection between social inequality and health is mediated by differences in health burdens and coping resources. Examples include structural aspects such as housing and living conditions, recreational, and leisure opportunities; material aspects such as income; psychosocial aspects such as stress, social support, and locus of control; and behavioral factors such as substance use, nutrition, and physical activity (see Bartley, 2016; Mielck, 2005; Richter et al., 2009, 2012; Thurston, 2014; Vonneilich et al., 2012). The importance for explaining health inequalities has been compiled in a systematic review and shows that a large part of the inequalities can be explained by these factors (Moor et al., 2017).

Furthermore, differences in health care and health and illness behavior play an important role. The individual mechanisms are interrelated. For example, a less advantageous position in the class or stratification structure of a society can lead to differences in health burdens caused, for example, by health-promoting housing and working conditions (material/structural factors). Coping resources, such as social support, can mitigate the pathogenic effect of health burdens, but if they are less

pronounced in people with lower income or education, they also contribute to increasing health inequalities.

In both models, social relations are addressed in different ways and are considered relevant. In Dahlgren and Whitehead's model, we speak of "social and community networks"—the social networks that form our focus are explicitly and prominently mentioned, albeit as a metaphor rather than in a network analytical sense (see chapter "[Social Network Theories: An Overview](#)"). In Elkeles and Mielck's model, they appear rather implicitly, somewhat hidden in coping resources, when "social support" is mentioned as a factor that can influence, for example, health behavior and quality of life. Neither model contains an explicit network structure perspective that goes beyond this.

3 Social Networks and Health Inequalities

In the field of health research, numerous studies indicate that a network analytical perspective and a consideration of mechanisms acting in these networks (see chapter "[Social Network Mechanisms](#)") can make an important contribution to explaining various dimensions of health and health behavior (see Valente, 2010; De et al., 2007; Fletcher et al., 2011; Macdonald-Wallis et al., 2012; Seo & Huang, 2012; Smith & Christakis, 2008). With data from the Alameda County Study, for example, Berkman and Syme (1979) were able to show that socially less integrated persons have a higher mortality risk. Schwarzer and Knoll (2007) show that social support can favor coping with the consequences of heart surgery, and the studies of Christakis, Fowler, and colleagues suggest that happiness, obesity, alcohol consumption, and smoking behavior are contagious in networks (Christakis & Fowler, 2007, 2008; Fowler & Christakis, 2008; Rosenquist et al., 2010).

However, the network approach has rarely been used in connection with research into health inequalities. As DiMaggio and Garip (2012) show, this also applies to other areas of inequality research, and although it can theoretically be assumed that the mechanisms of homophily—"equal and equal likes to be together"—and transitivity—"my friend's friend is my friend"—can lead to the reproduction of social affiliations and thus reinforce social inequalities. It is also true that the network approach has not been applied to the study of health inequalities. The social status influences opportunity structures to establish contacts, for example, by enabling access to social circles (clubs, etc.) that arrange (professionally) beneficial social contacts through a higher position. Empirically, it has been shown that people with a higher status have larger networks with lower density, a lower proportion of relatives, and a greater geographical spread (Mewes, 2010; Fuhse, 2010). Granovetter (1973) has shown in his study that this network structure, in which a higher proportion of weak relationships are also found, is helpful, for example, in the search for a job. In contrast, the lack of financial resources, which is found, for example, among the unemployed, can threaten the maintenance of reciprocity (expectations) in networks, thus leading to the loss of relationships and making it

more difficult to overcome unemployment (see chapter “[Unemployment, Social Networks, and Health Inequalities](#)”).

Relatively often, studies on health inequalities include concepts closely related to the concept of social networks, such as “social relations,” “social support,” or “social capital” and discuss their possible contribution to explaining health inequalities (e.g., Kawachi & Kennedy, 1997; Vonneilich et al., 2011, 2012; Weyers et al., 2008). These approaches are often based on the idea that disadvantaged socioeconomic strata of society have higher morbidity and mortality rates because of the less access to helpful, supportive, and health-promoting social capital or social support than higher strata. Since a network theoretical and analytical perspective has proven to be profitable for research on health, disease, and mortality, and since concepts already closely related to social networks, such as social support, are also applied to research on health inequalities, we assume that a sociological network perspective can also be relevant for research on health inequalities. With this introduction and with the contributions in this volume, we propose to go beyond the aspects of social relations and social support mentioned in research or theoretical explanatory models of health inequalities by including a sociological network perspective.

Within the framework of the Scientific Network “Social Networks and Health Inequalities,” we have developed a network theoretical explanatory model for this (see Fig. 3), which we will present below.

With the network theory explanatory model of health inequalities, we can refer, in addition to the models of Dahlgren and Whitehead and of Elkeles and Mielck, to a groundbreaking model published by Berkman and Glass, in which different

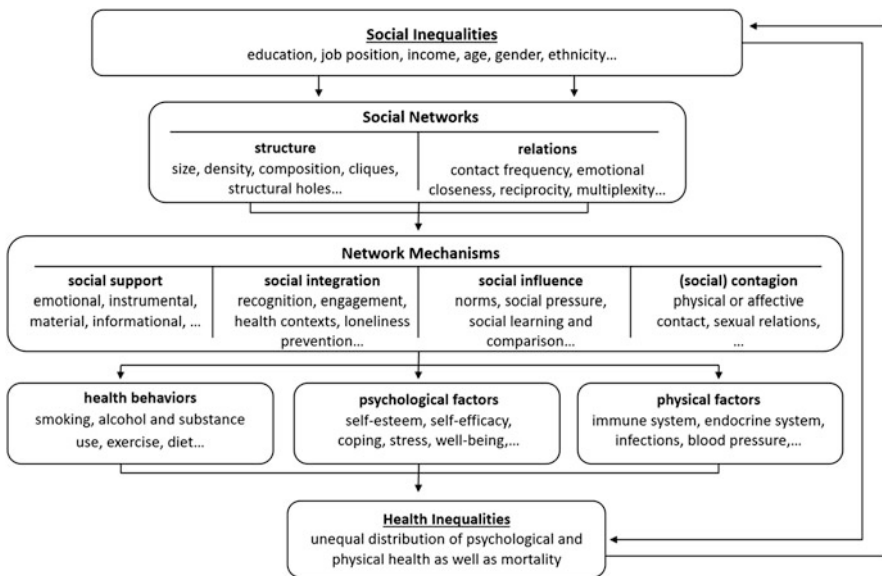


Fig. 3 A network model of health inequalities. Source: Own representation, based on: Berkman and Glass (2000), Elkeles and Mielck (1997), and Dahlgren and Whitehead (1991)

theoretical concepts of social networks, social integration, social influence, and social support and their influence on health are brought together (Berkman & Glass, 2000; see chapter “[Social Status, Social Relations, and Health](#)”). In systematizing the network mechanisms, we are guided not only by the proposal of Berkman and Glass but also by the work of Bernardi, Keim, and colleagues (Bernardi & Klärner, 2014; Keim, 2011; Keim et al., 2009). In the chapter “[Social Network Mechanisms](#)” we will go into more detail about the possibilities for action.

In our model, which explicitly takes up only a part of the theoretically possible explanation paths and interrelationships of social and health inequalities, and which are considered in more detail in the abovementioned models, we assume that inequalities at the level of education, occupational status, and income, as well as at a level of age, gender, national-ethnocultural affiliation, and so forth, have an influence on the structure and nature of relationships within the social networks in which actors and individuals are embedded. For example, numerous studies show that higher education, higher income, and a higher professional position are generally associated with larger networks, more supportive relationships, and friendships and greater social inclusion (Diewald & Lüdicke, 2007; Böhnke, 2007; Levy & Pescosolido, 2002; Stringhini et al., 2012); see chapter “[Social Status, Social Relations, and Health](#)”). Both age and gender have proven to be relevant for network structure; for example, old age is negatively associated with social inclusion (Böhnke, 2007; see chapter “[Social Networks and Health Inequalities in Old Age](#)”), and women tend to have larger networks than men (McLaughlin et al., 2010; Schwartz & Litwin, 2018; see chapter “[Gender and Health Inequalities: Social Networks in the Context of Health and Health Behavior](#)”).

We assume that these network structures and characteristics of the relationship level have an effect on individual experience and action at the micro-level via specific mechanisms. We propose to differentiate between the following network mechanisms (see chapters “[Social Relations, Social Capital, and Social Networks: A Conceptual Classification](#)” and “[Social Network Mechanisms](#)”):

- **Social support**, meaning, first of all, the general process of exchange of both tangible and intangible goods and services between related actors. Of particular importance for health and health inequalities are emotional and motivational support (e.g., comfort, understanding, encouragement, motivation); material support (e.g., money, housing); practical support (e.g., care, assistance), and informational support (e.g., tips, knowledge). Closely related to this is the concept of social capital.
- **Social integration**, which includes mechanisms and phenomena such as social recognition, isolation, and so forth, which focus on the fact that people as social beings react not only functionally (e.g., through support) but also emotionally and conatively (action-related, e.g., “social gathering”) to contact and exchange with other people and to their personal recognition (*social validation*). Social integration often (partly indirectly) initiates further important services such as access to resources or goods, contacts, or general information, which usually cannot be

conceived as direct “support services,” but which also indirectly influence the individual’s health options by influencing, for example, coping with illness.

- **Social influence**, which is to be understood as a collective term for processes that are difficult to distinguish from one another, such as social learning or social pressure, in which actors in the network influence one another consciously or unconsciously with their actions, their presence or absence, and thus also, for example, shape or influence health behavior.
- **(Social) contagion**, which refers to the direct physical or affective transmission of health-related entities through personal or intimate contacts. As a broad generic term, this refers both to contagion in the sense of the transmission of pathogens in relationship networks (e.g., through sexual contacts, syringe exchange among drug addicts, etc.) as well as the emotional effects of contagion with new behavior or knowledge content, such as enthusiasm for new health trends or problematic health behavior such as vaccination resistance.

These broadly conceived network mechanisms offer a theoretical and empirical opportunity to provide more detailed information about the three *pathways* proposed by Berkman and Glass (2000) through which social network relationships can affect health and health inequalities. These are the pathways of health behavior, psychological, and physiological mediation processes. For example, material factors, as described in the models of Dahlgren and Whitehead, as well as in Elkeles and Mielck (see Sect. 2), in the influence of environment and working conditions on health, are of course highly significant and also effective, but are not at the center of the network analytical explanatory approach.

Individual health behavior is the total of all health-promoting as well as risk behavior, that is, the individual extent of tobacco and alcohol consumption, diet, and physical activity or adherence to medical prescriptions or recommendations (Knoll et al., 2011). All four proposed network mechanisms are conceivable in principle for these behaviors or have already been linked to them (cf. Kienle & Stadler, 2012; Wills & Ainette, 2012). For example, the work of Demas et al. (2005) showed that *social integration* into a self-help group led to greater treatment adherence among HIV patients. In the work of Lee et al. (2007) on adolescents with one parent with AIDS, respondents showed less risk behavior of their own when experiencing social support, *unless there was* negative *social influence* by family members who themselves practiced risk behavior. And Salvy et al. (2009) showed in an experimental study on *social contagion* with 54 adults that physical activity with others was suitable for reducing the calorie intake in subjects.

Finally, an important path is the so-called psychological path, in which social networks affect psychological factors. Prominent examples are individual self-esteem, coping with stress, or general well-being. Schwarzer and Knoll (2007) discuss two aspects of social influences on these variables: According to the authors, social relationship networks can *enable* individuals to deal adaptively with individual stress (i.e., while maintaining a high level of function) by reducing stress or supporting them in coping with it. On the other hand, social relationship networks also provide opportunities for the individual to *make* social processes *useful* for his

or her own well-being, for example, by allowing the individual to get involved in contexts that are perceived as pleasant or to mobilize concrete services when needed (Kienle & Stadler, 2012).

The physiological pathway describes the effect of cardiovascular, neuroendocrine, and immunological mechanisms on individual health (Uchino, 2006). There has been lively research on the relationship between these mechanisms and social network mechanisms in recent decades, and it is surprising how strongly physiological measures such as heart rate, blood pressure, stress hormones, or immune cell concentrations depend on the presence and support of others. This seems to be an important mechanism, although it can probably only partly explain the relationship between networks and health (Kienle & Stadler, 2012, p. 755).

Thus, this model postulates a clear causal impact of social inequalities on health via social networks. If it is true that, depending on the social inequality dimensions of individuals or population groups, the network mechanisms are present in their relationship networks in different forms and intensities, then the three impact paths will also present themselves differently and over the long-term lead to different health statuses of the individuals or population groups. The further question is then (see chapter “[Social Status, Social Relations, and Health](#)”) whether there is an explanatory contribution of social networks to the connection between social status and health (mediator effect of social networks) or whether the connection between social networks and health varies according to social status group (moderator effect of social status). However, if we look at the current state of research and on the factors named in the model, it becomes clear that “the research gap on the influence of socio-cultural conditions on an individual’s health—mediated via network structures that Berkman et al. (2000) already lamented, appears to continue” (Kienle & Stadler, 2012, p. 750; *authors translation*). This anthology has set itself the goal of reviewing the state of research in various thematic fields and identifying the need for further research.

4 The Contributions of the Volume

With this anthology, we want to present the network perspective in more detail, both theoretically and methodologically. We would like to show the role network analysis can play for different topics in the research field of health inequalities. On the one hand, the topics encompass different biographical phases from a life course perspective, and on the other hand, they shed light on specific dimensions of inequality such as social status, gender, and migration background. Therefore, the respective chapters are similarly structured, linked, and related to each other.

The first part of this anthology deals with the theoretical and methodological foundations of network research.

In the chapter “[Social Relations, Social Capital, and Social Networks](#)”, Nico Vonneilich provides a conceptual classification of the main concepts used in this volume, thereby defining the boundaries between social relationships, social capital,

and social networks. In the chapter “[Social Network Theories](#)”, Markus Gamper presents the network theoretical foundations and important concepts from network research, beyond the already presented theories of social capital. Andreas Klärner and Holger von der Lippe take a closer look at the mechanisms of social support, social integration, social influence, and (social) contagion in social networks in an interdisciplinary overview of sociological and psychological effects in particular (see chapter “[Social Network Mechanisms](#)”). Finally, Philip Adebahr brings in the perspective of negative aspects of social relationships. This has thus far received too little attention in research on networks and health or health inequalities (see chapter “[Negative Ties and Inequalities in Health](#)”). This first part concludes with a chapter by Markus Gamper on quantitative, qualitative, and combined methods of network analysis (see chapter “[Network Analysis and Health Inequalities: A Methodological Introduction](#)”).

The second and third parts of this anthology deal with different fields of inequality research and examine the role of network analytical approaches in each field and identify research gaps.

The second part refers to a life course perspective (Bengtson & Allen, 1993; Elder et al., 2003; Mayer, 1998). This assumes, among other things, that different biographical phases (e.g., leaving the parental home, transition to parenthood, transitions to unemployment) are shaped by the dynamic interactions of the various strands of an individual biography (e.g., educational, employment, mobility, family biography), which in turn, according to our thesis, has an influence on the structure and composition of individual social networks and health inequality.

In the chapter “[Social Networks, Family Social Capital, and Child Health](#)”, Daniel Lois shows the indirect and direct impact of the child’s social network as well as the parents’ social network. Furthermore, he discusses different theoretical approaches to explain this phenomenon. Family social capital, which is fed by the network relationships, correlates positively with the socioeconomic resources of the parents in western industrialized countries. In emerging and developing countries, the existence of social support is a particularly critical factor for children’s health.

Irene Moor, Laura Hoffmann, Martin Mlinarić, and Matthias Richter deal with research on the health behavior of pupils (see chapter “[Social Networks, Health, and Health Inequalities in Youth](#)”). They show that the thesis of social influence (i.e., friends influence the [health] behavior and attitudes of adolescents and they adapt them) and the thesis of selection (i.e., adolescents choose their friends to see if they have similar attitudes and (health) behavior to themselves) can be empirically proven. However, there is still a need for research on the importance of social networks in explaining health inequalities in adolescence.

In the chapter “[Social Networks and Health Inequalities in Young and Middle Adulthood](#)”, Holger von der Lippe and Olaf Reis focus on the connections between social and health inequalities, biographical transitions, social relationship networks, and individual health behavior. According to current research, the authors believe that a media effect of social networks is probable for the influence of social inequalities on health. This is likely to be particularly evident in the context of

biographical transitions or upheavals, in which social strata succeed to varying degrees in benefiting from social networks with regard to health.

Finally, Britta Müller and Lea Ellwardt concentrate on people in the post-job phase of life in the chapter “[Social Networks and Health Inequalities in Old Age](#)”. Along three health parameters relevant in old age: mortality, dementia, and depression risk, the authors show that these parameters are associated with both socioeconomic status and social network characteristics. The mediation mechanisms of health, socioeconomic status, and social network cannot yet be adequately explained by existing studies. However, moderating effects of network characteristics on health inequalities in old age seem to be the most likely so far.

Different dimensions of inequality are then considered in the third part of the volume. Nico Vonneilich introduces the current state of research on the relationships between social status, social relations, and health in the chapter “[Social Status, Social Relations, and Health](#)”. Two questions are in focus: (1) Is there evidence for an explanatory contribution of social relations to the relationship between social status and health (mediator effect of social relations) and (2) does the connection between social relationships and health vary according to social status group (moderator effect of social status)? Thus, research suggests that social relationships can contribute to an explanation of health inequalities, whereas the current state of research on the moderating effect is less clear. One reason for this could be that a complex recording of social relationships, such as social networks, has hardly taken place to date.

Based on the empirically well-documented finding that unemployment leads to impairments of physical and mental health, Gerhard Krug, Stefan Brandt, Markus Gamper, André Knabe, and Andreas Klärner pursue two important theses on the role of social networks in this context in the chapter “[Unemployment, Social Networks, and Health Inequalities](#)”.⁴ Thesis 1 assumes that unemployment changes social networks in such a way that they no longer fulfill their positive function for health (mediator thesis). Thesis 2 states that unemployment leaves social networks unchanged and persons with resource-rich networks suffer less from health losses due to unemployment (moderator thesis). However, there is little empirical evidence on either thesis to date.

As with the unemployed, there is good empirical evidence that single parents have poorer mental and physical health than married parents. In the chapter “[Social Networks and the Health of Single Parents](#)”, Sylvia Keim-Klärner examines the relevance of social networks and their characteristics in this context. Specific network analytical studies on the health of single parents are rare, but the effect of social support is quite well-documented. A network analytical perspective also opens the view to conflictual relationships or ambivalent relationship contents and

⁴The article uses the term unemployment, which is generally used in everyday language and in science to describe the lack of gainful employment. This means that people who are engaged in work that is productive from an individual and social point of view (e.g., in the household or in volunteer work) can also be unemployed in this sense. This is explicitly not associated with any evaluative statement on non-salaried work.

directs the research interest to the interaction of supportive and stressful relationships. This is also connected to the question of how social networks of relationships can reinforce or mitigate the health effects of social inequalities.

In the chapter “[Gender and Health Inequalities: Social Networks in the Context of Health and Health Behavior](#)”, the authors Markus Gamper, Julia Seidel, Annett Kupfer, Sylvia Keim-Klärner, and Andreas Klärner refer to the well-documented health differences between the sexes (see above). Many studies also point to differences between the sexes with regard to their social networks. Women have larger networks, with a higher proportion of family members and relatives than men. However, according to more recent studies, the differences are diminishing. Women seem to take on more and more time-consuming social support tasks. They also seem to have more contact persons for problems than men. Men have more professionals who have higher positions in their networks. They connect more subgraphs and benefit more from professional relationships. As far as social support is concerned, an unequal distribution between the sexes is evident and negative sides of social capital are revealed. For example, women are exposed to greater psychological stress due to their greater social involvement. Gender differences regarding health are particularly evident in adolescence and old age. In the youth phase, the focus is on risk behavior (e.g., alcohol and cigarette consumption) and its connection with selection and influencing effects of networks. In old age, negative effects on mental and physical health are more likely to be observed, often a consequence of the networks becoming smaller, partly due to widowhood.

Stefan Zapfel, Nancy Reims, and Mathilde Niehaus state in the chapter “[Social Networks and Disability: Access to and Stabilization of Integration into the Primary Labor Market](#)” that labor market-related disability and rehabilitation research have so far largely refrained from using network theories. They note that analysis and explanatory potential in this field have by no means been exhausted. This would be important because disabilities are closely related to the genesis and stability of networks, which in turn correspond to access and continuity of employment relationships. Network contacts that are established or maintained through welfare state institutions are also important. Successful integration into the employment system depends to a large extent on the accessibility of such assistance, the commitment of welfare state actors, their cooperation, the motivation of disabled people to participate, and the individual educational background and social support.

Annett Kupfer and Markus Gamper find major research gaps in the chapter “[Migration as a Health Inequality Dimension? Natio-Ethno-Cultural Affiliation, Health, and Social Networks](#)” Ethnic and migration-related differences are increasingly being researched as determinants of health inequalities. However, the available empirical results on “migration and health or health inequalities” are partly contradictory. Studies that accept social networks as an influencing variable and thus investigate national-ethnocultural affiliation, health, *and* social networks in their interaction are very rare. This research almost always considers only one population group, while not broadening their view to include vertical dimensions of inequality such as income or education. In addition, most studies use the term network rather as a metaphor, as a synonym for group or social capital, or to exclusively investigate

social support as a central function of social networks. It remains to be asked to what extent the phenomena associated with the term “migration” are actually migration-specific—for example, linked to a concrete migration process—or whether other social group affiliations, such as class or gender, have (higher) explanatory power for health inequalities in the sense of intersectionality.

Due to the unsatisfactory state of research, the contributions in this anthology sometimes only deal with individual aspects of this model. The results from the individual areas are therefore summarized and discussed against the background of our theoretical model in the concluding fourth part of the volume, in which we identify research desiderata and provide suggestions for future research (see chapter “[Desiderata: Social Networks and Health Inequalities: Which Questions Remain Open?](#)”). In this way, as often requested (e.g., Kienle & Stadler, 2012; Govia et al., 2011), we want to enrich the theoretical debate in the field of health sciences and contribute to a more precise use of terms such as “social network,” “social integration,” and “social support.” If our anthology could set the tone for empirical studies on the influence and significance of social networks in the reproduction of health inequalities, our scientific network would have achieved its goal.

Brunswick, Berlin, Halle an der Saale, Hamburg, and Cologne, May 2022.

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