Andreas Klärner · Markus Gamper ·
Sylvia Keim-Klärner · Irene Moor ·
Holger von der Lippe ·
Nico Vonneilich *Editors*

Social Networks and Health Inequalities

A New Perspective for Research

OPEN ACCESS

Springer

Social Networks and Health Inequalities

Andreas Klärner • Markus Gamper •
Sylvia Keim-Klärner • Irene Moor •
Holger von der Lippe • Nico Vonneilich
Editors

Social Networks and Health Inequalities

A New Perspective for Research

Springer

Editors
Andreas Klärner
Thünen Institute of Rural Studies
Braunschweig, Germany

Markus Gamper
Department of Cultural and Educational Sociology at the Department of Education and Social Sciences of the Faculty of Human Sciences
University of Cologne, Cologne, Germany

Sylvia Keim-Klärner
Thünen Institute of Rural Studies
Braunschweig, Germany

Irene Moor
Institute of Medical Sociology (IMS), Medical Faculty
Martin-Luther University Halle-Wittenberg
Halle, Germany

Holger von der Lippe
Department of Psychology
Medical School Berlin – School of Health & Medicine, Berlin, Germany

Nico Vonneilich
Institute of Medical Sociology, Medical Center Hamburg-Eppendorf
University of Hamburg, Hamburg, Germany

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.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Gender and Health Inequalities: Social Networks in the Context of Health and Health Behavior

Markus Gamper, Julia Seidel, Annett Kupfer, Sylvia Keim-Klärner, and Andreas Klärner

Overview

- There are significant differences in morbidity (incidence of disease) and mortality (death rate) between men and women.
- By puberty, male adolescents are more likely to have health problems.
- During puberty, girls suffer from chronic and mental illnesses and male adolescents are more likely to suffer from acute and life-threatening diseases (e.g., HIV).
- Boys and men have riskier health behavior.
- The field of research mainly relates to the binarity of the sexes—men and women. Studies on trans[1] and queer[2] persons are rare in this field.
- Networks have a gender-specific effect on risk behavior.

(continued)

[1] "An umbrella term for people whose gender identity differs from the sex they were assigned at birth. The term transgender is not indicative of gender expression, sexual orientation, hormonal makeup, physical anatomy, or how one is perceived in daily life" (TSER, 2020).

[2] "An umbrella term for gender and sexual minorities who are not cisgender and/or heterosexual. There is a lot of overlap between queer and trans identities, but not all queer people are trans and not

M. Gamper (✉)
University of Cologne, Köln, Germany
e-mail: m.gamper@uni-koeln.de

J. Seidel · A. Kupfer
University of Dresden, Dresden, Germany
e-mail: julia.seidel4@tu-dresden.de; annett.Kupfer@tu-dresden.de

S. Keim-Klärner · A. Klärner
Thünen Institute of Rural Studies, Braunschweig, Germany
e-mail: sylvia.keim-klaerner@thuenen.de; andreas.klaerner@thuenen.de

A. Klärner et al. (eds.), *Social Networks and Health Inequalities*,
https://doi.org/10.1007/978-3-030-97722-1_14

- Women provide more and more time-consuming social support, even in case of illness.
- After widowhood, networks have both negative and positive effects, which are gender-specific.

1 Gender as a Category of Inequality

Gender has become one of the most important categories in social science discourse. Gender permeates and shapes all areas of social life and influences social order and social positioning (Johnson et al., 2009). For females and males, gender "*are gender-specific conceptions of normality, standards of behavior and scripts of staging with which they have to come to terms incessantly throughout their lives*" (Rose, 2015, p. 63). In everyday knowledge, the gender binary (male and female) as well as gender affiliation and the assumption of heterosexuality is accepted and practiced as self-evident.

However, gender is a social as well as historical construct and grown phenomenon that is (re)produced in social and everyday interactions and actions (*doing gender*). Gender classifies individuals into different groups, which are based on a biologically bound allocation and on social attribution processes. Against this background, it is important to distinguish between *sex* (the sex assigned at birth based on biological characteristics) and *gender* (as a social and cultural dimension) (Mauvais-Jarvis et al., 2020; Johnson et al., 2009). The subdivision enables the reflection of gender and the differences between men and women as non-biological, but as a social and cultural construct. Gender can be considered as "*a system of social practices within society that constitutes people as different in socially significant ways and organizes relations of inequality on the basis of that difference*" (Ridgeway & Smith-Lovin, 1999, p. 192). Gender inequality and restrictive gender norms have impact on health and health-related behaviors as well as access to healthcare. On the other hand, social systems (e.g., healthcare systems) reinforce and reproduce gender inequalities along with their implications (Heise et al., 2019; Courtenay, 2000).

1.1 Gender and Health

Since the 1970s, the topic of gender and its influence on health has gained in influence in research and in medical practice (Charles & Walters, 2008; Read & Gorman, 2010). A large number of studies have shown that there are sometimes

all trans people are queer. The word queer is still sometimes used as a hateful slur, so although it has mostly been reclaimed, be careful with its use" (TSER, 2020).

pronounced gender differences with regard to health, that is, in morbidity (frequency of illness) and mortality (death rate), in the processes by which illnesses develop, and in the course of illness and health behavior, men and women appear to differ significantly (Charles & Walters, 2008; Robert Koch Institut, 2015). Studies on trans-persons are rather rare. Most of the available research covers the whole group LGBTIQ: Lesbian, Gay, Bisexual, Transgender, Intersexual, and Queer.

1.1.1 Life Expectancy and Mortality

In most countries around the world, there is a homogeneous pattern of life expectancy: At all ages men have shorter life expectancies than women (Bambra et al., 2009; World Health Organization, 2019). For the years 2015–2020, the United Nations was able to determine the following exemplary life expectancies measured in years: Afghanistan (male (m): 62.7; female (f): 65.6), Brazil (m: 72.2; f: 79.4), Japan (m: 80.7; f: 87.1), Canada (m: 80.7; f: 84.4), Estonia (m: 73.01; f: 81.9), Kenya (m: 64.9; f: 69.6), and New Zealand (m: 80.4; f: 83.7) (UNdata, 2017). Also in Germany, the average life expectancy for women at birth is currently 83.1 years and for men, 78.3 years (Federal Statistical Office, 2019b; Robert Koch Institut, 2015). In recent years, gender differences have converged in favor of the male sex (Robert Koch Institut, 2017; World Health Organization Europe, 2018), which is attributed to the increase in health-risk behavior among women (e.g., rising number of smoking women). The shorter life expectancy of the male gender persists. For example, worldwide male infants also show a higher risk of death than female infants (World Health Organization, 2019). The unfavorable mortality statistics for men continues in the further course of life and becomes particularly apparent between the ages of 25 and 65. In Germany, almost twice as many men (86,654) died in middle age in 2016 as women (46,815) (Federal Statistical Office, 2019c). The gender gap for premature mortality can also established for other European countries, for example, Armenia (f: 297 per 100,000 population; m: 690 per 100,000), Spain (f: 136 per 100,000; m: 288 per 100,000), and Finland (f: 151 per 100,000; m: 290 per 100,000) (World Health Organization Europe, 2020e, 2020f). The gender gap in excess mortality is justified by the more frequent health-risk behavior of men (Barry & Yuill, 2016; Bartley, 2017; Charles & Walters, 2008).

There are also gender differences in the context of diverse causes of death. Women die more frequently from cerebrovascular diseases, but less often from malignant neoplasms. There are only slight gender differences in respiratory or digestive system diseases (Robert Koch Institut, 2015). An enormous gender-specific difference can be confirmed for suicide and intentional self-harm. In 2017, 9235 people in Germany committed suicide, where the proportion of men was three times higher, at 75%, than the proportion of women, at 25% (Federal Statistical Office, 2019a, 2019d). This proportion was confirmed in other countries, for example, Israel, Kazakhstan, Republic of Moldova, and The Netherlands (World Health Organization Europe, 2020a, 2020b).

1.1.2 Morbidity

Gender differences in health are also well documented in terms of morbidity (Bambra et al., 2009; World Health Organization, 2019). According to Hurrelmann and Quenzel (2011), health differences between girls and boys already occur from the first year of life until the age of sexual maturity at about 12 years: Boys perform worse than girls in most health indicators. In Germany, for example, more boys than girls up to the age of 15 were examined by medical professionals for health problems (Federal Statistical Office, 2019c; Hurrelmann & Quenzel, 2011; Robert Koch Institut, 2015). The United Nations Children's Fund (UNICEF) review (2015) comes to similar conclusions: "Overall, in 40 out of the 67 countries a higher proportion of boys compared to girls were taken to a health-care facility" (Nair et al., 2015, p. 8). Gender-specific differences in childhood can also be shown in the incidence of illness (Hurrelmann & Quenzel, 2011). According to the Federal Statistical Office in Germany, boys at the age of 1–15 years suffer more than girls from leukemia, epilepsy, chronic diseases of the lower respiratory tract, such as bronchial asthma, obesity, and sleep disorders. A greater susceptibility of the male gender is also observed in the area of mental illness, for example, in Germany (Federal Statistical Office, 2019c; Hurrelmann & Quenzel, 2011; Robert Koch Institut, 2015) and England (Sadler et al., 2018) and could be shown in an international systematic review similarly (Bor et al., 2014) (see chapter "Social Networks, Family Social Capital, and Child Health"). Transgender children and gender nonconforming (TGNC) children are strongly affected by mental health problems (Becerra-Culqui et al., 2018).

Even mental health problems like, for example, anxiety, depression, headaches, dizziness, and staggering and functional somatic symptoms increased among both boys and girls (Collishaw & Sellers, 2020). Girls aged 15 years and older suffer more from psychosomatic and physiological complaints than boys at the same age. The results can be found in Germany (Hurrelmann & Quenzel, 2011; Federal Statistical Office (2019c), Belgium (van Droogenbroeck et al., 2018), England (Sadler et al., 2018), Norway (Moksnes & Reidunsdatter, 2019), Sweden (Giota & Gustafsson, 2017), the USA (Mojtabai et al., 2016), and in other western countries (Collishaw, 2015). Studies from Canada (Veale et al., 2017) and the USA (Becerra-Culqui et al., 2018; Nahata et al., 2017) show that TGNC youth had a higher risk of reporting psychological distress, self-harm, major depressive episodes, and suicide compared to the age subgroups (see chapter "Social Networks, Health, and Health Inequalities in Youth").

The gender-specific tendency continues into adulthood (18–65 years) and refers to the subjective self-assessment of health. According to the World Health Organization Europe (2020c, 2020d) female persons in Europe assess their health less often as good than male persons do, for example, in Bulgaria (f: 61.7%; m: 77.9%), Cyprus (f: 79.1%; m: 81.3%), and Luxembourg (f: 68.1%; m: 72.4%).

Gender-specific differences can also be identified in the context of chronic diseases. Regitz-Zagrosek (2017) and Mauvais-Jarvis et al. (2020) emphasize that the female disease profile is more likely to be influenced by chronic diseases and by psychosomatic as well as psychological impairments (e.g., thyroid diseases, depression, eating disorders, migraine, hypertension, gallbladder diseases, arthritis, osteoporosis, and Alzheimer's disease). The male profile is characterized by acute and life-threatening diseases (e.g., HIV infection, malignant neoplasms of the digestive organs as well as the lungs and bronchi, pulmonary emphysema, liver cirrhosis, heart disease). A meta-analysis of transpeople indicates that transperson men[3] in particular are strongly affected by HIV/AIDS. There are also connections with other risk factors such as prostitution or discrimination (Herbst et al., 2008). Overall, LGBTIQ persons show a high risk for intestinal diseases (e.g., giardia, amoeba), hepatitis A and B, human papilloma viruses,[4] and anal carcinoma (anal cancer) (Dean et al., 2000).

Heart disease, especially ischemic heart disease, plays a significant role in the context of gender differences and health. According to current studies, ischemic heart disease is the most recognized example for integrating the concept of gender and sex. Differences between the genders exist in almost every stage of the disease, for example, in risk factors as well as in the pathogenesis and treatment (Mauvais-Jarvis et al., 2020; Regitz-Zagrosek, 2017). Women suffering from ischemic heart disease are less likely to receive evidence-based treatment or invasive diagnostics (Fernandes et al., 2009; Kuhlmann, 2016; Mauvais-Jarvis et al., 2020).

Gender-specific differences can also be described with mental illness. According to data from Mauvais-Jarvis et al. (2020) and the Robert Koch Institute (2015), the prevalence of anxiety disorders is twice as high in women than in men. A similar picture emerges for depressive disorders (Mauvais-Jarvis et al., 2020). Even though there is hardly any research on completed suicide and suicide risks among transpeople, the very detailed review by Haas et al. (2010) shows an increased suicide risk as well as an increased number of completed suicides for transpeople (Clements-Nolle et al., 2006; Toomey et al., 2018). This is probably especially true for young adolescents (Mustanski et al., 2010). Compared to the general population, transpeople also have higher prevalence rates for depression and anxiety disorders, among other things (Borgogna et al., 2019; Witcomb et al., 2018).

Few gender differences are seen in old age. In connection with multimorbidity, the female gender scores significantly lower—women who suffer from multiple chronic diseases such as osteoporosis, osteoarthritis, and heart failure. Older men have significantly higher prevalence of life-threatening diseases such as heart attacks, strokes, and chronic obstructive pulmonary disease (Alharbi et al., 2020; Iller & Wienberg, 2012) (see chapter "Social Networks and Health Inequalities in

[3] Person who identify themselves as male, but were assigned female at birth (Trans Student Educational Resources, 2020).

[4] These viruses can infect skin and various mucous membranes and cause uncontrolled tumor-like growth.

Old Age"). Graham et al. (2011) summarize individual aspects of transpeople in the different phases of life but claim to be unable to provide any results. However, Fredriksen-Goldsen et al. (2014) found that "*Transgender older adults were at significantly higher risk of poor physical health, disability, depressive symptomatology, and perceived stress compared with nontransgender participants*" (p. 488).

1.2 Gender and Health Behavior

According to Crimmins et al. (2011), European Institute for Gender Equality (2017), and Kuhlmann (2016), cultural and social factors influence the use of health services and lead in some cases to significant gender differences in almost all areas of the healthcare system. For example, more women participate in health courses offered by adult education centers and health insurance companies (European Institute for Gender Equality, 2017; Robert Koch Institute, 2015), although these courses are likely to be primarily aimed at the needs of women and disadvantage men (Kuhlmann, 2016).

Gender differences can also be demonstrated with regard to utilization of inpatient medical care. Rommel et al. (2017) verify this fact for Germany. A gender difference is particularly evident in young adulthood: 15% of women and 9% of men aged between 18 and 29 were admitted to hospital during the last 12 months. Hardly any differences between the genders can be detected among 65-year-olds and older people (f: 25.8%; m: 25.9%).

The utilization of psychiatric and psychotherapeutic services occupies a special position in the context of gender differences. According to Barry and Yuill (2016), Gagné et al. (2014), and (Rommel et al., 2017), men are particularly reluctant to consult or report a mental illness, which the authors attribute to the prevailing gender stereotype in society (Barry & Yuill, 2016).

Smoking is one of the major risk factors for health and the leading cause of premature mortality. According to Zeiher et al. (2017), 20.8% of women and 27.0% of men in Germany smoke at least occasionally, while 52.6% of women and 38.0% of men have never smoked. A similar ratio appeared in other European countries, also to the disadvantage of the male gender. For example, in France in 2016, 30.1% of the female population and 35.6% of the male population reported (occasional) smoking. In Belarus, the gender difference is even greater: 46.1% of men but only 10.5% of women smoke (World Health Organization Europe, 2020g, 2020h). According to the Robert Koch Institute (2015), however, the smoking rate of the genders has converged over the last 20 years due to the increase in female smokers. The increase in the female smoking rate can be explained by the change of the gender roles and gender stereotypes (Bartley, 2017; Kolip & Hurrelmann, 2016).

Also, consumption of alcohol shows considerable gender inequalities at all ages. According to the Global Status Report on Alcohol and Health, "*[m]en generally drink considerably more alcohol than women, both on heavier-drinking occasions and in terms of the volume of drinking; the gender difference is generally greater*

where there is greater gender inequality" (World Health Organization, 2018, p. 14). Gender differentiation can also be identified in the context of alcohol use disorder. In 2016, for example, globally an estimated 46 million women and 237 million men suffered from alcohol use disorder (World Health Organization, 2018). Social differences have a significant influence on alcohol consumption: The gender differentiation is often greater among poorer people than among richer ones (Bloomfield et al., 2006).

Hardly any research has examined the consumption of substances by transperson teenagers and transperson adolescents. Most existing studies refer to the group of LGBTIQ persons. However, a study on young LBTIQ women in San Francisco shows that substance use is very common among transperson female[5] adolescents and that is significantly associated with psychosocial risk factors (Rowe et al., 2015). A long-term study in the USA was subsequently able to show that alcohol consumption increased linearly over time. Male LGBTIQ adolescents tended to increase faster than female adolescents (Newcomb et al., 2012). The abuse of prescription opioids and tranquilizers is already evident in LGBTIQ adolescents at a young age (Kecojevic et al., 2012). Furthermore, another U.S. study provides evidence that the abuse of prescription drugs occurs relatively frequently in LGBTIQ adults and is strongly associated with emotional stress (Benotsch et al., 2013).

1.3 Selected Explanatory Approaches in the Context of Gender-Specific Health Differences

As clearly as the gender-specific health differences could be shown, the identification of the causes is just as difficult. Many questions could not yet be clarified in this context. Three explanatory approaches are presented below.

1.3.1 Gender-Specific Role Conceptions and Stereotypes

In recent years, the influence of social constructions of gender on health has been discussed in scientific discourses (Barry & Yuill, 2016; Charles & Walters, 2008). According to Sieverding (2005, p. 57), there is a broad consensus that gender differences in physical health and illness are most strongly rooted in gender differences in health-related behavior, especially in the higher risk behavior of men. A large number of socio-cultural factors influences health-related behavior. In this context, social gender roles and stereotypes are attributed a key function (Barry & Yuill, 2016). For example, the female gender is still considered to play a more caring and health-conscious role in the context of health. In contrast, the construction of the

[5] Person who identify themselves as female, but were assigned male at birth.

male gender is based on being able to solve health problems independently and without external help (Barry & Yuill, 2016; Charles & Walters, 2008).

1.3.2 Discrimination

Gender stereotypes and roles in society also have an impact on the assessment of other people. It is suspected that medical professionals perceive and treat patients differently based on their gender. Studies indicate that healthcare professionals take male complaints more seriously. On the other hand, the female gender is apparently more often suspected of having psychological problems and the treatment is designed accordingly (Mauvais-Jarvis et al., 2020). According to Homan (2019), women "*are less likely than men to receive the most effective, advanced treatments and diagnostic procedures available for a variety of health conditions*" (p. 487). A qualitative study shows that hospital staff often react to the health needs of transperson patients with uncertainty, which can be expressed in stigmatization. This, in turn, leads transpeople to believe that their needs are not understood (Poteat et al., 2013). A review of 17 articles on the attitudes of caregivers toward LGBTIQ patients confirmed discrimination (Dorsen, 2012; Grant et al., 2011).

1.3.3 Poverty and Social Inequality

Poverty and social inequality have a key impact on gender health and life expectancy and lead to gender gaps. Women still receive 20% less in wages than men in most countries of the world. They continue to be more often affected by poverty and do twice as much housework and child care than men. These gender inequalities and the social conditions in which people work and live have a significant impact on the health of a country's population (Homan, 2019; International Labour Organization, 2019). This effect becomes clear, for example, in self-rated health. Pinillos-Franco and Somarriba (2019) found that women "*tend to report poorer health compared to men, which might be due to women balancing their work and family life by working more hours*" (p. 258). A U.S. study found that the unemployment rate among transpeople is twice as high as in the general population. This reduces their likelihood of being covered by health insurance, on the one hand, and being covered by a company's general insurance on the other (Grant et al., 2011).

2 Gender and Social Networks: An Overview

In the 1970s, it was assumed that women and men have different attitudes toward social contacts (e.g., Miller, 1976), without having any large-scale network studies to support this thesis. It was not until the 1980s when there was an increase in quantitative and qualitative research with an explicit gender orientation, and gender

also became increasingly important in network research. Gender has become an inequality variable that is very well studied compared to most of the other characteristics presented in this book. Due to the large number of studies, and because gender is often used as a control variable within quantitative network research, the current list can only give a brief overview of the research and point to empirical approaches and gaps. It should be noted that the search for differences is still primarily based on a binary difference scheme of man/boy vs. woman/girl and thus gender identities such as transgender or queer have hardly been considered.

2.1 Social Networks and Age

Gender, according to research on friendship and school, is an important variable in friendship formation. Martin et al. (2013) show that the choice of play partners for *pre-school children* falls disproportionately on same-sex children. Also, regarding networks of young *adolescents* (McPherson et al., 2001) and in the first years of secondary school (Lubbers & Snijders, 2007), there is still a very strong separation between the sexes (high gender homophily), which decreases over the years but is nevertheless maintained. As people get older, these homogeneous networks slowly dissolve and more gender heterogeneous groups emerge (Feiring, 1999). Studies by Lubbers and Snijders (2007) also show a low proportion of love relationships or sexual relationships in secondary school, while these are more pronounced in high school (Bearman et al., 2004). In both studies, these sexual or relationship networks are predominantly heterosexual, thus increasing the proportion of opposite sex alters in the network.

For *older people*, exemplarily in the family networks of older Mexicans, the study by Fuller-Iglesias and Antonucci (2016) shows no gender differences (proximity, shares in the network). In contrast, Schwartz and Litwin (2018), using the Europe-wide longitudinal survey "Health, Ageing, and Retirement in Europe" ($n = 13.938$), find an increase in network relationships over time for people aged 65 and older, especially for women, who are less involved in family networks.

2.2 Life Cycle and the Composition of Social Networks

With regard to life cycle, various research findings paint the following picture. In the study by Fischer and Oliker (1983), a few differences between the sexes after adolescence can be found. For example, women have more contact with relatives, while men name more employees and colleagues as network partners. Differences become visible in the life cycle. In the case of *early marriage* and parenthood, friendship networks shrink more for women than for men. After the birth of children, the networks of men get smaller compared to women. "Further evidence suggests that this interaction effect can be explained by both structural and dispositional

factors, the former working to reduce women's friendships relative to men's in the earlier period and the latter expanding their friendships later on" (Fischer & Oliker, 1983, p. 132). Munch et al. (1997) found that social norms regarding the upbringing of children in Western countries have an impact on network structures. While the birth of a child did not have a statistically significant influence on the size of the network of men, a significant negative influence on the size of the network of women was observed.

2.3 *Gender Differences in Network Structures Regarding the General Population*

In addition to studies on life phases, various studies have existed since the 1980s that investigate the question of gender differences regarding social networks in the general population. One example is the much-cited study by Fischer (1982) "To Dwell Among Friends—Personal Networks in Town and City," which highlights the gender effect on networks: "*Women tend to be involved in networks with more relatives and to have more intimate ties than did otherwise similar man. Young women, particular mothers, were more constricted in various ways, such as in the number of the 'just friend' they had [. . .]*" (p. 253).

In contrast to Fischer, Gillespie et al. (2015) found no significant gender differences in the number of girlfriends, the number of alters with whom one celebrates birthdays, intimate affairs (e.g., sex life), or problems discussed late at night. However, the number of friendships varied considerably according to marital status, age, and parental status (see above). It is noteworthy that each of the respondents can name at least one close friend.

Other studies with the same focus drew on data from the General Social Survey (GSS) in the USA to find out how networks can be described in the U.S. population. Marsden's study (1987) explores the question of differences in the variables of age, education, race, gender, and size of residence. As a result, the networks of young, well-educated, and metropolitan residents appear to be the largest. Gender differences are found primarily in the composition of the network of relatives and non-relatives; for example, the proportion of family members is greater among women. Similar results can be found in a somewhat older study by Moore (1990). Even after controlling for variables related to employment, social structural positions, family, and age, women had a larger proportion of kinship relationships and a smaller proportion of acquaintance relationships in the network and a greater diversity of family relationships than men. These differences are attributed to different structural relationship contexts or locations, which exert certain possibilities for and limitations on the formation of close social relationships. Indeed, gender differences in network composition and structure disappear when employment and family status and age are statistically controlled. Nevertheless, the empirical finding remains that women's networks contain a higher number, proportion, and diversity of kinship relationships than men's networks.

A study in Singapore shows that men and women are more likely to encounter professional contacts that are dominated by their own gender (bipolar: man or woman). For example, women are more likely to meet male nurses because they are overrepresented in nursing care, although different life stages have an influence on this. After the birth of a child, women also come into contact with professional groups in which they are underrepresented, such as teachers, which in turn affects the composition of the network (Chua et al., 2016).

The gender aspect seems to have lost its impact on the differences in network formation in recent years. While women still have slightly larger networks than men and have more conversations about important matters with relatives, they now also have more relationships outside the family. Women thus no longer have a clearly kinship-oriented discussion network than men and are less frequently socially isolated (McPherson et al., 2006). This is also confirmed by Fuller-Iglesias and Antonucci (2016) for 18–99-year-old Mexican women.

However, some findings are being questioned. For example, some critics point to the strong interviewer effect in the GSS survey (Fischer, 2009), while others question the name generators used and note, for example, that women may have more important things to discuss than men and may therefore have a larger network (Bearman & Parigi, 2004).

2.4 Network Resources and Gender Differences

In addition to describing the structure, many studies are looking into the question of what resources the networks can make available. This is done at different levels:

1. On a general social level. Here, an attempt is made to determine the extent to which the distribution of resources in the general population differs between the sexes.
2. At the organizational level. The extent to which integration into social networks influences success—usually professional success—is investigated.

2.4.1 Social Support and Resource Allocation

Gillespie et al. (2015) show that men and women have equal access to emotional support. Moore (1990) shows similar results. However, Bearman and Parigi (2004) point out that when it comes to "important things to discuss," women do name more persons than men. The study on social support by Turner and Marino (1994) supports both a life cycle and a gender effect: women state that they receive more social support from employees, relatives, and friends than men. Vyncke et al. (2014) show contradictions in this respect regarding the available social capital of women and men. Men can activate significantly more resources in the network and report more potential support relationships and more network partners promoting healthy

lifestyles. Hobfoll and Vaux (1993), on the other hand, conclude on the basis of various studies that women are more involved in social support interactions. They are more adept at support processes and therefore often have more intimate relationships and larger support networks. Women spend more time in social interactions, are more likely to share feelings and personal concerns, and are more likely to report receiving social support.

Walen and Lachman (2000) find in their study of 2348 adults (aged 25–75) in relationships that women report more support from family and friends, whereas men are more likely to receive support from their partner. In addition, Diewald (1991) uses the analysis of five representative population surveys to establish that women have more contact persons available to them in most forms of life than men. This was particularly true for single, single parents, divorced, and widowed women. According to Barker et al. (1990), women are more likely than men to seek support from close and distant relatives, friends, and neighbors.

When it comes to receiving aid, the preferences of women and men seem inconsistent. While Antonucci et al. (1998) and Lenz (2003) show that women prefer their own gender when seeking support, other researchers also show contradictory findings. Although women tend to consider intra-family helpers, such as the sister, or extra-family female helpers, such as the neighbor (Nestmann & Schmerl, 1992), women are generally the central "donors." For example, in the study by Veiel and Herrle (1991), both students and depressed patients and parents of children with cancer are on average more likely to name women than men as supporters.

The gendered division of labor is also most clearly evident in terms of assistance in the event of illness. Both male and female respondents cited women as sources of social support many times more often than men. They are equally important supporters in cases of depression and for advice on important life changes and problems with partners (Diewald, 1991). Nestmann and Schmerl (1992) also mention women more often as helpers. According to the authors, both men and women receive more help from female helpers than from male helpers (mother mentioned more often than father, daughter before son, sister before brother). Women, and especially mothers, are therefore regarded as the central support bodies for their families (Nestmann & Schmerl, 1992). Barker et al. (1990) found that men relied significantly more on their partners for support in stressful situations. The fact that men are dependent on their partners is also particularly pronounced among men above the age of 60 (Diewald, 1991).

Not only do women act as supporters for their partners, but according to Schmid's study overview (2014), they also provide more frequent and more time-consuming support than fathers for their adult children. If they are particularly helpful in the household and with childcare, fathers are more likely to support their adult children with shopping, repairs, or gardening. With regard to intergenerational relationships, gender differences should also be noted in the support provided to children. For example, daughters have more frequent contact with their parents than sons. Daughters in many countries more often take on physically demanding and time-consuming care tasks and provide more support overall. Sons mainly help their parents with administrative tasks, repairs, or financial issues. However,

according to Schmid (2014, p. 17), little attention has so far been paid to these differences in generational research, which is why the causes of gender-specific support patterns are still insufficiently researched.

Networking and support studies on the living environments of transpeople are hard to find. However, Pflum et al. (2015) provide an example of a significant connection between social support and mental health for transpeople: For both trans male spectrum (TMS) and trans female spectrum (TFS) participants, general social support is significantly negatively associated with symptoms of anxiety and depression—with increased social support, feelings of anxiety and depressive moods decreased. However, the negative correlation between trans-community attachment and mental health symptoms was significant for TFS participants.

2.4.2 Social Relations of Men and Women in Organizations

In addition to the general research on social capital and social support networks, there is research on the difference in the "utilization" of social relations between men and women in organizations, such as business enterprises or universities. It is assumed that professional "success" is not only dependent on competencies but also on networks. Women in particular seem to be disadvantaged by processes of stereotyping (Oehlendieck, 2003; Lyness & Thompson, 2000). Most of this research shows that men have larger work-related networks, are associated with larger clusters, and derive more benefit from these relationships since men occupy higher positions in hierarchical structures (McGuire, 2000).

In contrast, women appear to be embedded in smaller and less diverse networks that provide hardly any resources. These networks have a female homophily and are mainly staffed by people from lower hierarchical positions. Since the sub-clusters also tend to be more homogeneous, there is overlapping of resources, which can lead to social capital disadvantage and replication of positions within the network (Lin, 2000). In contrast, Scheidegger and Osterloh (2004) conclude that it is predominantly men (as persons with strong legitimacy) who draw career advantages from structural holes, and that women tend to need cohesive, redundant networks to move up within the organization. At the same time, as long as only a few female persons are represented in central, statutorily higher positions, women are dependent on network contacts with higher-ranking men for economic reasons and therefore have to differentiate their network contacts with corresponding resource costs. In a study overview, they also show the strong homophily of the respective networks (female managers, female employees of media companies), whereby it was particularly true for men that their networks consisted primarily of "same sex ties." It is therefore assumed that women tend to focus on their individual competencies rather than social capital (Poole & Bornholt, 1998), while men focus more on networks and make better use of resources (van Emmerik, 2006).

3 Gender, Social Networks, and Health Inequalities

3.1 The Impact of Social Capital and Social Support on Health Inequalities

The importance of gender in research on health inequalities has been repeatedly emphasized in recent years. It is usually centrally linked to the concept of social capital or social support (see the chapters "Social Relations, Social Capital, and Social Networks: A Conceptual Classification" and "Social Network Mechanisms"). The concept of social networks, if it occurs at all, is used as a metaphor for supportive or "supportive" relationships.

There is ample evidence that this social capital and the availability of social support is unequally distributed between men and women and that the impact is also gender-specific. This has already been partly discussed in the previous chapter (see above). On the basis of several studies, Underwood (2005) assumes that women generally receive more support than men when they are ill (bypass surgery, myocardial infarction). They often receive more emotional, but not necessarily material, support over a longer period of time (Hobfoll & Vaux, 1993; Underwood, 2005). In contrast, the effect is evaluated differently. For example, a Finnish study found that leisure participation and interpersonal trust predicted all-cause mortality and also cardiovascular mortality for women (Hyyppä et al., 2007). A U.S. study shows that for men, participation in religious service and social group activities was protective against all-cause mortality (Eng et al., 2002). The results show, even after controlling for socioeconomic status, age, health status, and health behavior, that for women a higher level of social capital was associated with a lower risk of *all-cause mortality.* Another theoretically very significant finding of the study is the positive correlation between the frequency of contact with friends and a lower risk of all-cause mortality. Kawachi and Berkman (2001) also point to negative effects of social capital. According to them, women are mentally more burdened by their social commitment and show corresponding symptoms of illness when people with whom they are connected get (health) problems. Sarason et al. (1997) and Antonucci et al. (1998) subsequently report that women are more involved in social relationships and are more likely to experience stress and negative effects on general life satisfaction, especially if they have larger networks and maintain many close relationships. According to Walen and Lachman (2000), this may be because women who are more involved in social relationships are also more likely to experience negative events in their social environment (e.g., supporting a friend when she loses a loved one). They are more likely to perceive and respond to the needs of others and act as supporters in crises (Hobfoll & Vaux, 1993; Nestmann & Schmerl, 1992). In general, the well-being of the women interviewed is more closely related to positive and negative aspects of marriage and friendship relationships than that of men (Antonucci et al., 2001).

Another study looked as professional support and birth attend decisions. An effective strategy to reduce maternal mortality is for every woman to be supported

by a skilled birth attendant (SBA). The study of Edmonds et al. (2012) analyzed the association of women's social networks with the use of SBA in uncomplicated pregnancy and childbirth in Matlab, Bangladesh. "*The findings demonstrate that place of birth decisions can be explained from network content, though not structure, and that network content has more explanatory value than individual attributes alone [. . .]*" (Edmonds et al., 2012, p. 456).

3.2 Networks and Gender Differences Regarding Health

Beyond this research on social capital, some studies focus on a decided network perspective where gender differences play an important or central role. These often concentrate on certain phases of life, in particular on the youth phase, which has already been comparatively well researched in terms of network analysis (see chapter "Social Networks and Health Inequalities in Young and Middle Adulthood") and on the phase of old age (see also chapter "Social Networks and Health Inequalities in Old Age"). In the following, some more recent findings from these research areas will be presented.

An important issue in adolescence is risk behavior, such as tobacco or alcohol consumption. Here, both cross-sectional and longitudinal studies that shed light on gender differences and focus primarily on networks in school classes, can be found. Here, network research can show that specific network characteristics, such as homophily, ensure that specific health behavior and interventions to improve health behavior can spread more or less well (Valente, 2012).

For example, Grard et al. (2018) conducted a cross-sectional study examining gender differences in cigarette, alcohol, and cannabis use among 14–16-year-old boys and girls in 50 European schools. They show that girls have a lower prevalence of substance use than boys. The gender of the friends also plays a role: If girls have more *friendships of* the opposite *sex* in their networks (*other sex friendships*, OSF), they are more likely to use one of the three substances surveyed than girls who are friends more so with girls (*same-sex friendships*, SSF). Boys in OSF are more likely to smoke than boys in SSF. However, boys are more likely to consume these substances when using alcohol and cannabis. The gender composition at school is also important: in schools dominated by men, the risk of substance use is higher for boys and girls.

In contrast, Deutsch et al. (2014), in their analysis based on data from the National Longitudinal Study of Adolescent Health (Add Health) from the USA 1 year later, find no influence of the gender composition of friendship networks on drinking behavior. Thus, although the authors' hypothesis that the average alcohol consumption in the peer network has an influence on the alcohol consumption of ego is confirmed, this is not moderated by *gender*. The authors suspect selection effects here: Girls look for *peers* who show similar drinking behavior as themselves. No influence on the alcohol consumption of ego could be proven for the gender ratio in a *peer group*, either: Contrary to the assumption, higher proportions of male

adolescents in the network did not lead to higher alcohol consumption, neither among boys nor among girls. Surprisingly, the closeness of the relationships proved to be relevant to alcohol consumption: In both boys (SSF) and girls (OSF), less friendly closeness to male friends was accompanied by a stronger influence of these friends on alcohol consumption 1 year later. However, the proximity to female friends became significant only for boys (OSF) in this way. The authors conclude from their findings that the role of gender in socialization with alcohol is much more complex than previously thought and call for the study of a wide range of relationships within a network, including those that are less close or non-reciprocal. In addition, the contexts in which young people drink and their motives for drinking should be investigated more closely.

The effect of selection or influencing factors, that is, the extent to which young people choose their peers according to their preferences and needs or are influenced by them in their behavior, is investigated in studies using longitudinal data. In many cases, the so-called SIENA models (*Simulation Investigation for Empirical Network Analysis*) are used for this purpose. The research mainly focuses on the aspects of alcohol, cigarette, and cannabis consumption among schoolchildren (Knecht et al., 2011; Osgood et al., 2013; Pearson et al., 2006). With regard to smoking behavior, Finnish secondary school students are more likely to be selection factors that determine friendly relationships. With regard to alcohol behavior, there are both selection factors and influencing factors. The results did not consistently differ with regard to gender (Kiuru et al., 2010). Daw et al. (2015) also show that boys and girls in the USA (seventh grade) select their same-sex friends according to similarity in smoking behavior. An influence of girlfriends on smoking behavior could only be proven for girls. Regarding alcohol consumption, Burk et al. (2012) found that the similarity between the drinking behavior of girlfriends starts in the sixth grade, peaks in the eighth grade, and decreases again during late adolescence. Adolescents in all three age groups chose peers with similar drinking behavior, with the effects being strongest among early adolescent men and late adolescent women. There is no difference between the sexes in terms of influence (Burk et al., 2012). Regarding marijuana use in high schools in the USA, the authors note that the circle of friends is also selected according to age and marijuana use. The factor influence was only found at one high school. However, gender, race, or the number of female friends outside of school did not significantly predict the frequency of marijuana use. There was also minimal evidence that peer effects are moderated by personal, school, or family risk factors (de la Haye et al., 2013).

Network studies on gender differences and depressive disorders can also be found for adolescence. Similar to the study by Rosenquist et al. (2011) among adults, which concludes that depression is socially contagious, especially for women, Conway et al. (2011) show for adolescence that in girls the occurrence of depression among friends is accompanied by an increased occurrence of their own depressive symptoms 1 year later.

Further studies examine very specific network parameters and can show that the same network parameters for girls and boys are related to depressive disorders in completely different ways. Boys are more likely to suffer from depressive disorders

if they are afraid of negative evaluations by their peers and have a lower popularity in their network. Girls who are afraid of negative reviews are more likely to suffer from depressive disorders if they have a high popularity in their networks (Kornienko & Santos, 2014). A study by Falci and McNeely (2009) examines the size and density of networks and shows that girls who are involved in very large, fragmented networks (i.e., few network members know each other) are more likely to experience depressive symptoms than girls who are involved in large but cohesive networks. For boys, on the other hand, the situation is exactly the opposite: If they are embedded in large and less cohesive networks, they are less affected by depressive symptoms than boys who are embedded in large and cohesive networks.

Network studies can also be found in the old age phase. A study on older people (over 60 years of age) in the USA examines the effects of different ideal-type networks (diverse network, network with high social commitment, network with low social commitment and restricted network) on well-being. Men who are involved in restricted networks show a particularly low level of well-being. In general, women, in different types of networks, rate their health much better than men (Fiori et al., 2006).

An important health-related topic in old age is also the biographical transition of widowhood. The death of the partner can have a negative influence on mental health and lead to depressive symptoms. The network mechanisms of social support, social engagement, and social integration are mentioned in this context as factors that alleviate the above-mentioned symptoms and have a positive influence on health (see chapter "Social Networks and Health Inequalities in Old Age"). There is some evidence of relevant gender differences in this context (see Monserud & Wong, 2015): Older men are more likely to rely on their wives for emotional support, housekeeping, and social contacts (Lee et al., 2001; Umberson et al., 1992), and women are more likely to be economically dependent on their husbands and may therefore be exposed to financial stress when widowed (Arber, 2004; Umberson et al., 1992). Moreover, only among older women is social support perceived as low, and only among older men is there a lower level of network integration related to poorer self-reported health (Caetano et al., 2013). This could result in different demands on the social relationship networks, which they cannot always fulfill.

For Mexico, a country where institutional support systems are less developed and private, family support structures are therefore more important. Monserud and Wong (2015) find in a longitudinal study that married men reported fewer depressive symptoms than all other status groups differentiated by gender (married/already widowed in wave 1/widowed in wave 2). However, there were no statistically significant gender differences in depressive symptoms among those recently (since wave 2) widowed. The results on the influence of social support are inconsistent and the effects must be considered in a differentiated manner: Regardless of marital status, a higher score for emotional support is associated with lower increases in depressive symptoms, while receiving financial or practical support—more pronounced in recently widowed men than in recently widowed women—is associated with a greater increase in these symptoms. This could be related to the fact that reliance on this form of support may trigger feelings of dependency or be associated with the perception of

limited autonomy and a reversal of roles in parent–child relationships and thus cause stress (see chapter "Negative Ties and Inequalities in Health"). A stronger integration into a social network, operationalized through co-residence with children, relatives, or friends and participation in community activities, has the same effects, which have to be considered in a differentiated way: Generally, co-residence with relatives is associated with a higher increase in depressive symptoms, while co-residence with others (children, friends) means a lower increase in depressive symptoms. For recently widowed men and women who have been widowed for a longer period of time, co-residence with children is associated with a lower increase in depressive symptoms, while for recently widowed men co-residence with other people is associated with a higher increase. Social integration in community activities generally does not explain the change in depressive symptoms between the two waves. For recently widowed women, church attendance is associated with a higher increase, while voluntary work in community activities is associated with a lower increase for long widowed women. There is strong evidence that social support and social integration are of different importance for the sexes and that role models and unequal distribution of household and partnership tasks play a role in this. According to the theory of social capital, social networks are also a vehicle for social resources for older transpeople, which can be beneficial for successful aging and well-being: *"Controlling for background characteristics, network size was positively associated with being female, transgender identity, employment, higher income, having a partner or a child, identity disclosure to a neighbor, engagement in religious activities, and service use. Controlling in addition for network size, network diversity was positively associated with younger age, being female, transgender identity, identity disclosure to a friend, religious activity, and service use"* (Erosheva et al., 2016, p. 98).

4 Conclusion

In summary, compared to the other categories presented in this book, the category of gender is relatively well studied. Nevertheless, the concept of the network is often used as a metaphor rather than a method or theory. The focus is mainly on school class studies and older people.

Studies indicate that women live longer than men. There are also health differences between the sexes in terms of morbidity. Especially in adolescence, boys perform worse than girls in most health-related indicators (e.g., leukemia, epilepsy, chronic diseases). During puberty, girls seem to be more likely to suffer from psychosomatic and physiological complaints. From this point on, the female disease profile is more likely to be characterized by chronic diseases and psychosomatic and psychological impairments (e.g., thyroid diseases, depression, eating disorders), while the male disease profile will likely be characterized by acute and life-threatening diseases (e.g., HIV infection, malignant neoplasms of the digestive organs and the lungs and bronchi). In old age, there is hardly any general gender difference. With regard to risk behavior, research shows that men smoke more and consume more alcohol than

women. While men make less use of psychiatric, psychotherapeutic, and outpatient medical services up to adulthood, the situation is similar in old age. However, research shows that it is important to take an intersectional perspective, because other aspects such as class do play an important role (Broom, 2008).

Network studies reveal differences between men and women. It can be argued that women have larger networks, which in turn have more family and kinship diversity. However, the latest studies assume that the networks of both sexes are slowly converging. With regard to the resources gained from social relationships, there is evidence that women are more likely to provide help in the event of illness. Mothers also provide more time-consuming support, and women seem to have more contacts for problems than men. Those preferred in receiving help, men or women, seems to be contradictory, with more studies showing a tendency toward female helpers. In professional network relationships, men have larger work-related networks. They are connected to other sub-networks and derive more benefits from these relationships since they occupy higher positions in professional networks. Women seem to focus more on their individual skills rather than social capital, while men focus more on networks and make better use of resources.

Studies on the relationship between networks and social capital or social support against the background of health inequalities show an unequal distribution. Women seem to take on more and more time-consuming social support tasks. They have more contact persons for problems than men. They also seem to suffer more often from negative aspects of social relationships. Women seem to be exposed to higher health burdens than men due to their greater social involvement.

In general, the health and health behavior of pupils and elderly people are becoming the focus of network research. Among adolescents and young adults, network studies often investigate cigarette, alcohol, and cannabis consumption. In addition to cross-sectional studies, more recent longitudinal studies investigate the influencing or selection factors. They examine the extent to which young people choose their friends according to their preferences and needs or are influenced by them in their behavior. Here, however, the research situation seems rather heterogeneous, perhaps also due to the different data sets and country focus. However, it is clear that girls or young women use light drugs to a lesser extent than their male peers and that social networks have a major effect on health behavior. However, the extent to which gender differences exist in network effects remains to be researched. There is also a connection between depressive illnesses and social networks, which appears to be subject to gender-specific factors.

In old age, the focus is mainly on the phase of widowhood and the associated network effects. Networks seem to have a positive influence on health. Nevertheless, negative aspects of networks are also apparent and can differ according to gender. For example, men are more likely to lose emotional support and parts of their social contacts due to the death of their partners, while women may be exposed to financial stress due to their economic dependence on their spouses.

The very few studies on transpeople show that many of them live on the margins of society and face stigmatization, discrimination, exclusion, violence, and poor health (Winter et al., 2016).

In conclusion, we would like to briefly discuss the desiderata. Despite a number of scientific studies, many questions are still unanswered. We would like to point out that intersex persons[6] are (almost) never considered in the studies. Furthermore, network research has so far played a subordinate role in the analysis for the benefit of social support or social capital. But concrete questions are also hardly ever considered. While the influence of networks on risk behavior has already been very well researched, the question arises as to what positive aspects social networks have on health behavior, such as doing sports or giving up certain drugs. In the explanation patterns regarding illness and the course of diseases, the question of the effects of class, gender, and social network connections should be given more attention, not only with newer methods of quantitative but also qualitative network research. It would also be important to link the concept of intersectionality even better with network research.

Reading Recommendations

Broom, D. (2008). Gender in/and/of health inequalities. *Australian Journal of Social Issues*, *43*(1), 11–28. This article discusses the aspect of gender and intersectionality by using empirical examples.

Barry, A.-M. & Yuill, C. (2012). *Understanding the sociology of health: An introduction*, *Third edition*. Sage. *The section on Gender and Health (pp. 129–144) offers readers a clear introduction to the relationship between health and gender based on international data.*

Bradford, J., Reisner, S. L., Honnold J. A., & Xavier, J. (2013). Lesbian, gay, bisexual, and transgender health: Findings and concerns. *Journal of the Gay and Lesbian Medical Association, 4*(3), 102–151. *A dense, good overview article on LGBT and health.*

Moore, G. (1990). Structural determinants of men's and women's personal networks. *American Sociological Review, 55*(5), 726–735. *An older but exemplary representative study from the U.S., which works with quantitative data from the General Social Survey (GSS, 1985) on strong relationships.*

Schwartz, E., & Litwin, H. (2018). Social network changes among older Europeans: The role of gender. *European Journal of Ageing, 15*(4), 359–367. *A recent quantitative longitudinal study that uses the Survey of Health, Ageing, and Retirement in Europe (n = 13,938) to investigate gender differences in the social networks of older people (65+).*

[6]People whose physical characteristics cannot be assigned to the female or male gender norm.

References

Alharbi, B., Masud, N., Alajlan, F., Alkhanein, N., Alzahrani, F., Almajed, Z., Alessa, R., & Al-Farhan, A. (2020). Association of elderly age and chronic illnesses: Role of gender as a risk factor. *Journal of Family Medicine and Primary Care, 9*(3), 1684–1690.

Antonucci, T. C., Akiyama, H., & Lansford, J. E. (1998). Negative effects of close social relations. *Family Relations: An Interdisciplinary Journal of Applied Family Studies, 47*(4), 379–384.

Antonucci, T. C., Lansford, J. E., & Akiyama, H. (2001). Impact of positive and negative aspects of marital relationships and friendships on well-being of older adults. *Applied Developmental Science, 5*(2), 68–75.

Arber, S. (2004). Gender, marital status, and ageing: Linking material, health, and social resources. *Journal of Aging Studies, 18*(1), 91–108.

Becerra-Culqui, T. A., Liu, Y., Nash, R., Cromwell, L., Flanders, W. D., Getahun, D., et al. (2018). Mental health of transgender and gender nonconforming youth compared with their peers. *Pediatrics, 141*(5), e20173845.

Bambra, C., Pope, D., Swami, V., Stanistreet, D., Roskam, A., Kunst, A., & Scott-Samuel, A. (2009). Gender, health inequalities and welfare state regimes: A cross-national study of 13 European countries. *Journal of Epidemiology and Community Health, 63*(1), 38–44.

Barker, C., Pistrang, N., Shapiro, D. A., & Shaw, I. (1990). Coping and help-seeking in the UK adult population. *British Journal of Clinical Psychology, 29*(3), 271–285.

Barry, A.-M., & Yuill, C. (2016). *Understanding the sociology of health: An introduction* (3rd ed.). Sage.

Bartley, M. (2017). *Health inequality: An introduction to concepts, theories and methods*. Polity.

Bearman, P., & Parigi, P. (2004). Cloning headless frogs and other important matters: Conversation topics and network structure. *Social Forces, 83*(2), 535–557.

Bearman, P. S., Moody, J., & Stovel, K. (2004). Chains of affection: The structure of adolescent romantic and sexual networks. *American Journal of Sociology, 110*(1), 44–91.

Benotsch, E. G., Zimmerman, R., Cathers, L., McNulty, S., Pierce, J., Heck, T., Perrin, P. B., & Snipes, D. (2013). Non-medical use of prescription drugs, polysubstance use, and mental health in transgender adults. *Drug and Alcohol Dependence, 132*(1–2), 391–394.

Bloomfield, K., Grittner, U., Kramer, S., & Gmel, G. (2006). Social inequalities in alcohol consumption and alcohol-related problems in the study countries of the EU concerted action 'Gender, Culture and Alcohol Problems: A Multi-national Study'. *Alcohol and Alcoholism, 41*(suppl_1), i26–i36.

Bor, W., Dean, A. J., Najman, J., & Hayatbakhsh, R. (2014). Are child and adolescent mental health problems increasing in the 21st century? A systematic review. *The Australian and New Zealand Journal of Psychiatry, 48*(7), 606–616.

Borgogna, N. C., McDermott, R. C., Aita, S. L., & Kridel, M. M. (2019). Anxiety and depression across gender and sexual minorities: Implications for transgender, gender nonconforming, pansexual, demisexual, asexual, queer, and questioning individuals. *Psychology of Sexual Orientation and Gender Diversity, 6*(1), 54–63.

Broom, D. (2008). Gender in/and/of health inequalities. *Australian Journal of Social Issues, 43*(1), 11–28.

Burk, W. J., van der Vorst, H., Kerr, M., & Stattin, H. (2012). Alcohol use and friendship dynamics: Selection and socialization in early-, middle-, and late-adolescent peer networks. *Journal of Studies on Alcohol and Drugs, 73*(1), 89–98.

Caetano, S. C., Silva, C. M., & Vettore, M. V. (2013). Gender differences in the association of perceived social support and social network with self-rated health status among older adults: A population-based study in Brazil. *BMC Geriatrics, 13*(1), 1–14.

Charles, N., & Walters, V. (2008). 'Men are leavers alone and women are worriers': Gender differences in discourses of health. *Health, Risk and Society, 10*(2), 117–132.

Chua, V., Mathews, M., & Loh, Y. C. (2016). Social capital in Singapore: Gender differences, ethnic hierarchies, and their intersection. *Social Networks, 47*, 138–150.

Clements-Nolle, K., Marx, R., & Katz, M. (2006). Attempted suicide among transgender persons: The influence of gender-based discrimination and victimization. *Journal of Homosexuality, 51*(3), 53–69.

Collishaw, S. (2015). Annual research review: Secular trends in child and adolescent mental health. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 56*(3), 370–393.

Collishaw, S., & Sellers, R. (2020). Trends in child and adolescent mental health prevalence, outcomes, and inequalities. In E. Taylor, F. Verhulst, & J. C. Yoshida (Eds.), *Mental health and illness of children and adolescents* (pp. 63–73). Springer Singapore.

Conway, C. C., Rancourt, D., Adelman, C. B., Burk, W. J., & Prinstein, M. J. (2011). Depression socialization within friendship groups at the transition to adolescence: The roles of gender and group centrality as moderators of peer influence. *Journal of Abnormal Psychology, 120*(4), 857–867.

Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science and Medicine, 50*(10), 1385–1401.

Crimmins, E. M., Kim, J. K., & Solé-Auró, A. (2011). Gender differences in health: Results from SHARE, ELSA and HRS. *European Journal of Public Health, 21*(1), 81–91.

Daw, J., Margolis, R., & Verdery, A. M. (2015). Siblings, friends, course-mates, club-mates: How adolescent health behavior homophily varies by race, class, gender, and health status. *Social Science and Medicine, 125*, 32–39.

de la Haye, K., Green, H. D., Jr., Kennedy, D. P., Pollard, M. S., & Tucker, J. S. (2013). Selection and influence mechanisms associated with marijuana initiation and use in adolescent friendship networks. *Journal of Research on Adolescence, 23*(3), 474–486.

Dean, L., Meyer, I. H., Robinson, K., Sell, R. L., Sember, R., Silenzio, V. M. B., Bowen, D. J., Bradford, J., Rothblum, E., & White, J. (2000). Lesbian, gay, bisexual, and transgender health: Findings and concerns. *Journal of the Gay and Lesbian Medical Association, 4*(3), 102–151.

Deutsch, A. R., Steinley, D., & Slutske, W. S. (2014). The role of gender and friends' gender on peer socialization of adolescent drinking: A prospective multilevel social network analysis. *Journal of Youth and Adolescence, 43*(9), 1421–1435.

Diewald, M. (1991). *Soziale Beziehungen: Verlust oder Liberalisierung?: Soziale Unterstützung in informellen Netzwerken* [=Social relations: Loss or liberalization: Social support in informal networks]. Edition Sigma.

Dorsen, C. (2012). An integrative review of nurse attitudes towards lesbian, gay, bisexual, and transgender patients. *Canadian Journal of Nursing Research, 44*(3), 18–43.

Edmonds, J. K., Hruschka, D., Bernard, H. R., & Sibley, L. (2012). Women's social networks and birth attendant decisions: Application of the network-episode model. *Social Science and Medicine, 74*(3), 452–459.

Eng, P. M., Rimm, E. B., Fitzmaurice, G., & Kawachi, I. (2002). Social ties and change in social ties in relation to subsequent total and cause-specific mortality and coronary heart disease incidence in men. *American Journal of Epidemiology, 155*(8), 700–709.

Erosheva, E. A., Kim, H.-J., Emlet, C., & Fredriksen-Goldsen, K. I. (2016). Social networks of lesbian, gay, bisexual, and transgender older adults. *Research on Aging, 38*(1), 98–123.

European Institute for Gender Equality. (2017, January 26). *Gender in health*.

Falci, C., & McNeely, C. (2009). Too many friends: Social integration, network cohesion and adolescent depressive symptoms. *Social Forces, 87*(4), 2031–2061.

Federal Statistical Office. (2019a). *Anzahl der Suizide nach Altersgruppen: Number of suicides by age group*. Retrieved March 22, 2020, from https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Gesundheit/Todesursachen/Tabellen/sterbefaelle-suizid-erwachsene-kinder.html

Federal Statistical Office. (2019b). *Durchschnittliche Lebenserwartung: Average life expectancy*. Retrieved March 22, 2020, from https://www-gensis.destatis.de/genesis/online/logon?sequenz=tabelleErgebnis&selectionname=12621-0002&zeitscheiben=16&sachmerkmal=ALT577&sachschluessel=ALTVOLL000,ALTVOLL020,ALTVOLL040,ALTVOLL060,ALTVOLL065,ALTVOLL080

Federal Statistical Office. (2019c). *Genesis-Online-Datenbank*. Retrieved March 22, 2020, from https://www-genesis.destatis.de/genesis/online

Federal Statistical Office. (2019d). *Zahl der Todesfälle im Jahr 2016 um 1,5% gesunken: Number of deaths decreased by 1.5% in 2016.* Retrieved March 24, 2020, from https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Gesundheit/Todesursachen/todesfaelle-2016.html

Feiring, C. (1999). Other-sex friendship networks and the development of romantic relationships in adolescence. *Journal of Youth and Adolescence, 28*(4), 495–512.

Fernandes, A. A., Perelman, J., & Mateus, C. (2009). *Health and health care in Portugal: Does gender matter*. https://www.researchgate.net/profile/Ceu_Mateus/publication/255580590_HEALTH_AND_HEALTH_CARE_IN_PORTUGAL_DOES_GENDER_MATTER/links/54ee56bc0cf25238f93a2c83/HEALTH-AND-HEALTH-CARE-IN-PORTUGAL-DOES-GENDER-MATTER.pdf

Fiori, K. L., Antonucci, T. C., & Cortina, K. S. (2006). Social network typologies and mental health among older adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 61*(1), P25–P32.

Fischer, C. S. (1982). *To dwell among friends: Personal networks in town and city*. University of Chicago Press.

Fischer, C. S. (2009). The 2004 GSS finding of shrunken social networks: An artifact? *American Sociological Review, 74*(4), 657–669.

Fischer, C. S., & Oliker, S. J. (1983). A research note on friendship, gender, and the life cycle. *Social Forces, 62*, 124–133.

Fredriksen-Goldsen, K. I., Cook-Daniels, L., Kim, H.-J., Erosheva, E. A., Emlet, C. A., Hoy-Ellis, C. P., Goldsen, J., & Muraco, A. (2014). Physical and mental health of transgender older adults: An at-risk and underserved population. *The Gerontologist, 54*(3), 488–500.

Fuller-Iglesias, H. R., & Antonucci, T. C. (2016). Familism, social network characteristics, and well-being among older adults in Mexico. *Journal of Cross-Cultural Gerontology, 31*(1), 1–17.

Gagné, S., Vasiliadis, H.-M., & Préville, M. (2014). Gender differences in general and specialty outpatient mental health service use for depression. *BMC Psychiatry, 14*(1), 1097.

Gillespie, B. J., Lever, J., Frederick, D., & Royce, T. (2015). Close adult friendships, gender, and the life cycle. *Journal of Social and Personal Relationships, 32*(6), 709–736.

Giota, J., & Gustafsson, J.-E. (2017). Perceived demands of schooling, stress and mental health: Changes from grade 6 to grade 9 as a function of gender and cognitive ability. *Stress and Health, 33*(3), 253–266.

Graham, R., Berkowitz, B., Blum, R., Bockting, W., Bradford, J., de Vries, B., & Makadon, H. (2011). *The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding*. The National Academies Press.

Grant, J. M., Motter, L. A., & Tanis, J. (2011). *Injustice at every turn: A report of the national transgender discrimination survey*. National Center for Transgender Equality.

Grard, A., Kunst, A., Kuipers, M., Richter, M., Rimpela, A., Federico, B., & Lorant, V. (2018). Same-sex friendship, school gender composition, and substance use: A social network study of 50 European schools. *Substance Use and Misuse, 53*(6), 998–1007.

Haas, A. P., Eliason, M., Mays, V. M., Mathy, R. M., Cochran, S. D., D'Augelli, A. R., Silverman, M. M., Fisher, P. W., Hughes, T., Rosario, M., Russell, S. T., Malley, E., Reed, J., Litts, D. A., Haller, E., Sell, R. L., Remafedi, G., Bradford, J., Beautrais, A. L., . . . Clayton, P. J. (2010). Suicide and suicide risk in lesbian, gay, bisexual, and transgender populations: Review and recommendations. *Journal of Homosexuality, 58*(1), 10–51.

Heise, L., Greene, M. E., Opper, N., Stavropoulou, M., Harper, C., Nascimento, Z., Nascimento, M., Zewdie, D., & Gender Equality, Norms, and Health Steering Committee. (2019). Gender inequality and restrictive gender norms: Framing the challenges to health. *The Lancet, 393*(10189), 2440–2454.

Herbst, J. H., Jacobs, E. D., Finlayson, T. J., McKleroy, V. S., Neumann, M. S., Crepaz, N., & HIV/AIDS Prevention Research Synthesis Team. (2008). Estimating HIV prevalence and risk behaviors of transgender persons in the United States: A systematic review. *AIDS and Behavior, 12*(1), 1–17.

Hobfoll, S. E., & Vaux, A. (1993). Social support: Social resources and social context. In *Handbook of stress: Theoretical and clinical aspects* (2nd ed., pp. 685–705). Free Press.

Homan, P. (2019). Structural sexism and health in the United States: A new perspective on health inequality and the gender system. *American Sociological Review, 84*(3), 486–516.

Hurrelmann, K., & Quenzel, G. (2011). Geschlecht und Gesundheit [=Gender and health]. *Public Health Forum, 19*(2), 2–3.

Hyyppä, M. T., Mäki, J., Impivaara, O., & Aromaa, A. (2007). Individual-level measures of social capital as predictors of all-cause and cardiovascular mortality: A population-based prospective study of men and women in Finland. *European Journal of Epidemiology, 22*(9), 589–597.

Iller, C., & Wienberg, J. (2012). Altern und Geschlecht. Gesundheit und Wohlbefinden im Alter in einer geschlechterdifferenziellen Perspektive [Ageing and gender. Health and well-being in old age in gender perspective]. In V. Moser & B. Rendtorff (Eds.), *Jahrbuch Frauen- und Geschlechterforschung in der Erziehungswissenschaft, Riskante Leben?: Geschlechterordnungen in der reflexiven moderne* (pp. 83–92). Barbara Budrich.

International Labour Organization. (2019). *Global Wage Report 2018/19 what lies behind gender pay gaps*. Retrieved September 28, 2020, from https://www.ilo.org/wcmsp5/groups/public/%2D%2D-dgreports/%2D%2D-dcomm/%2D%2D-publ/documents/publication/wcms_650553.pdf

Johnson, J. L., Greaves, L., & Repta, R. (2009). Better science with sex and gender: Facilitating the use of a sex and gender-based analysis in health research. *International Journal for Equity in Health, 8*(1), 1–11.

Kawachi, I., & Berkman, L. F. (2001). Social ties and mental health. *Journal of Urban Health, 78*(3), 458–467.

Kecojevic, A., Wong, C. F., Schrager, S. M., Silva, K., Bloom, J. J., Iverson, E., & Lankenau, S. E. (2012). Initiation into prescription drug misuse: Differences between lesbian, gay, bisexual, transgender (LGBT) and heterosexual high-risk young adults in Los Angeles and New York. *Addictive Behaviors, 37*(11), 1289–1293.

Kiuru, N., Burk, W. J., Laursen, B., Salmela-Aro, K., & Nurmi, J.-E. (2010). Pressure to drink but not to smoke: Disentangling selection and socialization in adolescent peer networks and peer groups. *Journal of Adolescence, 33*(6), 801–812.

Knecht, A. B., Burk, W. J., Weesie, J., & Steglich, C. (2011). Friendship and alcohol use in early adolescence: A multilevel social network approach. *Journal of Research on Adolescence, 21*(2), 475–487.

Kolip, P., & Hurrelmann, K. (2016). Gender und Gesundheit: Eine Einführung [=Gender and health: An introduction]. In P. Kolip & K. Hurrelmann (Eds.), *Handbuch Geschlecht und Gesundheit: Männer und Frauen im Vergleich* (2nd ed., pp. 8–18). Hogrefe.

Kornienko, O., & Santos, C. E. (2014). The effects of friendship network popularity on depressive symptoms during early adolescence: Moderation by fear of negative evaluation and gender. *Journal of Youth and Adolescence, 43*(4), 541–553.

Kuhlmann, E. (2016). Gendersensible Perspektiven auf Gesundheit und Gesundheitsversorgung [=Gender-sensitive perspectives on health and health care]. In M. Richter & K. Hurrelmann (Eds.), *Soziologie von Gesundheit und Krankheit* (pp. 183–196). Springer.

Lee, G. R., DeMaris, A., Bavin, S., & Sullivan, R. (2001). Gender differences in the depressive effect of widowhood in later life. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 56*(1), S56–S61.

Lenz, K. (2003). Zur Geschlechtstypik persönlicher Beziehungen – Eine Einführung [=Gender types of personal relations]. In K. Lenz (Ed.), *Geschlechterforschung, Frauen und Männer: Zur Geschlechtstypik persönlicher Beziehungen* (pp. 7–51). Juventa.

Lin, N. (2000). Inequality in social capital. *Contemporary Sociology, 29*(6), 785–795.

Lubbers, M. J., & Snijders, T. A. B. (2007). A comparison of various approaches to the exponential random graph model: A reanalysis of 102 student networks in school classes. *Social Networks, 29*(4), 489–507.

Lyness, K. S., & Thompson, D. E. (2000). Climbing the corporate ladder: Do female and male executives follow the same route? *Journal of Applied Psychology, 85*(1), 86.

Marsden, P. V. (1987). Core discussion networks of Americans. *American Sociological Review, 52*(1), 122–131.

Martin, C. L., Kornienko, O., Schaefer, D. R., Hanish, L. D., Fabes, R. A., & Goble, P. (2013). The role of sex of peers and gender-typed activities in young children's peer affiliative networks: A longitudinal analysis of selection and influence. *Child Development, 84*(3), 921–937.

Mauvais-Jarvis, F., Bairey Merz, N., Barnes, P. J., Brinton, R. D., Carrero, J. J., DeMeo, D. L., De Vries, G. J., Epperson, C. N., Govindan, R., Klein, S. L., Lonardo, A., Maki, P. M., McCullough, L. D., Regitz-Zagrosek, V., Regensteiner, J. G., Rubin, J. B., Sandberg, K., & Suzuki, A. (2020). Sex and gender: Modifiers of health, disease, and medicine. *Lancet (London, England), 396*(10250), 565–582.

McGuire, G. M. (2000). Gender, race, ethnicity, and networks: The factors affecting the status of employees' network members. *Work and Occupations, 27*(4), 501–524.

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology, 27*(1), 415–444.

McPherson, M., Smith-Lovin, L., & Brashears, M. E. (2006). Social isolation in America: Changes in core discussion networks over two decades. *American Sociological Review, 71*(3), 353–375.

Miller, J. B. (1976). *Toward a new psychology of women*. Penguin.

Mojtabai, R., Olfson, M., & Han, B. (2016). National trends in the prevalence and treatment of depression in adolescents and young adults. *Pediatrics, 138*(6), e20161878.

Moksnes, U. K., & Reidunsdatter, R. J. (2019). Self-esteem and mental health in adolescents – level and stability during a school year. *Norsk Epidemiologi, 28*(1–2).

Monserud, M. A., & Wong, R. (2015). Depressive symptoms among older Mexicans: The role of widowhood, gender, and social integration. *Research on Aging, 37*(8), 856–886.

Moore, G. (1990). Structural determinants of men's and women's personal networks. *American Sociological Review, 55*(5), 726–735.

Munch, A., McPherson, J. M., & Smith-Lovin, L. (1997). Gender, children, and social contact: The effects of childrearing for men and women. *American Sociological Review, 62*(4), 509–520.

Mustanski, B. S., Garofalo, R., & Emerson, E. M. (2010). Mental health disorders, psychological distress, and suicidality in a diverse sample of lesbian, gay, bisexual, and transgender youths. *American Journal of Public Health, 100*(12), 2426–2432.

Nahata, L., Quinn, G. P., Caltabellotta, N. M., & Tishelman, A. C. (2017). Mental health concerns and insurance denials among transgender adolescents. *LGBT health, 4*(3), 188–193.

Nair, H., Campbell, H., Park, J. J., Brondi, L., Shi, T., Olsson, S., & Kirdos, A. (2015). *Common childhood infections and gender inequalities: A systematic review*. Retrieved October 13, 2020, from https://www.unicef.org/health/files/Systematic_review_of_childhood_infections_and_gender_FINAL.pdf

Nestmann, F., & Schmerl, C. (1992). Wer hilft im Alltag? [=Who helps in everyday life?]. *Gruppendynamik, 23*(2), 161–179.

Newcomb, M. E., Heinz, A. J., & Mustanski, B. (2012). Examining risk and protective factors for alcohol use in lesbian, gay, bisexual, and transgender youth: A longitudinal multilevel analysis. *Journal of Studies on Alcohol and Drugs, 73*(5), 783–793.

Oehlendieck, L. (2003). Gender trouble in Organisationen und Netzwerken [=Gender trouble in organisations and networks]. In U. Pasero (Ed.), *Frauen, Männer, gender trouble: Systemtheoretische Essays* (pp. 171–185). Suhrkamp.

Osgood, D. W., Ragan, D. T., Wallace, L., Gest, S. D., Feinberg, M. E., & Moody, J. (2013). Peers and the emergence of alcohol use: Influence and selection processes in adolescent friendship networks. *Journal of Research on Adolescence, 23*(3), 500–512.

Pearson, M., Steglich, C., & Snijders, T. (2006). Homophily and assimilation among sport-active adolescent substance users. *Connections, 27*(1), 47–63.

Pflum, S. R., Testa, R. J., Balsam, K. F., Goldblum, P. B., & Bongar, B. (2015). Social support, trans community connectedness, and mental health symptoms among transgender and gender nonconforming adults. *Psychology of Sexual Orientation and Gender Diversity, 2*(3), 281.

Pinillos-Franco, S., & Somarriba, N. (2019). Examining gender health inequalities in Europe using a synthetic health indicator: The role of family policies. *European Journal of Public Health, 29*(2), 254–259.

Poole, M., & Bornholt, L. (1998). Career development of academics: Cross-cultural and lifespan factors. *International Journal of Behavioral Development, 22*(1), 103–126.

Poteat, T., German, D., & Kerrigan, D. (2013). Managing uncertainty: A grounded theory of stigma in transgender health care encounters. *Social Science and Medicine, 84*, 22–29.

Read, J. N. G., & Gorman, B. K. (2010). Gender and health inequality. *Annual Review of Sociology, 36*, 371–386.

Regitz-Zagrosek, V. (2017). Gender and cardiovascular diseases: Why we need gender medicine. *Der Internist, 58*(4), 336–343.

Ridgeway, C. L., & Smith-Lovin, L. (1999). The gender system and interaction. *Annual Review of Sociology, 25*, 191–216.

Robert Koch Institut. (2015). *Gesundheit in Deutschland: Health in Germany. Federal Health Reporting*. Retrieved March 25, 2010, from http://www.gbe-bund.de/pdf/GESBER2015.pdf

Robert Koch Institut. (2017). *Gesundheitliche Ungleichheit inverschiedenen Lebensphasen. Gesundheitsberichterstattung des Bundes [=Health inequality in different life stages: Health monitoring of the Federal Republic of Germany]*. RKI. Retrieved October 14, 2020, from https://www.rki.de/DE/Content/Gesundheitsmonitoring/Gesundheitsberichterstattung/GBEDownloadsB/gesundheitliche_ungleichheit_lebensphasen.pdf?__blob=publicationFile

Rommel, A., Bretschneider, J., Kroll, L. E., Prütz, F., & Thom, J. (2017). *The utilization of psychiatric and psychotherapeutic services in Germany–individual determinants and regional differences*. Retrieved October 12, 2020, from https://edoc.rki.de/bitstream/handle/176904/2911/JohM_04_2017_Psychiatric_and_psychotherapeutic_services.pdf?sequence=4

Rose, L. (2015). Geschlecht als soziale Unterscheidungskategorie in unserer Lebenswelt [=Gender as social distinction category in our life world]. In B. Bretländer, M. Köttig, & T. Kunz (Eds.), *Grundwissen Soziale Arbeit, Band 15, Vielfalt und differenz in der sozialen arbeit: Perspektiven auf Inklusion* (pp. 63–73). Verlag W. Kohlhammer.

Rosenquist, J. N., Fowler, J. H., & Christakis, N. A. (2011). Social network determinants of depression. *Molecular Psychiatry, 16*(3), 273–281.

Rowe, C., Santos, G.-M., McFarland, W., & Wilson, E. C. (2015). Prevalence and correlates of substance use among trans female youth ages 16–24 years in the San Francisco Bay Area. *Drug and Alcohol Dependence, 147*, 160–166.

Sadler, K., Vizard, T, Ford, T., Marchesell, F., Pearce, N., & Mandalia, D. et al. (2018). *Mental health of children and young people in England*, 2017, from https://dera.ioe.ac.uk/32622/1/MHCYP%202017%20Summary.pdf

Sarason, B. R., Sarason, I. G., & Gurung, R. A. R. (1997). Close personal relationships and health outcomes: A key to the role of social support. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research and interventions* (2nd ed., pp. 547–573). Wiley.

Scheidegger, N., & Osterloh, M. (2004). One network fits all? Effekte von Netzwerkcharakteristika auf Karrieren [=Effects of social networks characteristics on carriers]. In U. Pasero & B. P. Priddat (Eds.), *Organisationen und Netzwerke: Der Fall Gender* (pp. 199–226). VS Verlag für Sozialwissenschaften.

Schmid, T. (2014). *Generation, Geschlecht und Wohlfahrtsstaat: Intergenerationelle Unterstützung in Europa [=Generation, gender, and welfare state: Intergenerational support in Europe]*. VS.

Schwartz, E., & Litwin, H. (2018). Social network changes among older Europeans: The role of gender. *European Journal of Ageing, 15*(4), 359–367.

Sieverding, M. (2005). Geschlecht und Gesundheit [=Gender and Health]. In R. Schwarzer (Ed.), *Gesundheitspsychologie (Enzyklopädie der Psychologie)* (pp. 55–70). Hogrefe.

Toomey, R. B., Syvertsen, A. K., & Shramko, M. (2018). Transgender adolescent suicide behavior. *Pediatrics, 142*(4).

Trans Student Educational Resources. (2020). *Definitions*. Retrieved September 17, 2020, from https://transstudent.org/about/definitions/

Turner, R. J., & Marino, F. (1994). Social support and social structure: A descriptive epidemiology. *Journal of Health and Social Behavior, 35*(3), 193–212.

Umberson, D., Wortman, C., & Kessler, R. (1992). Widowhood and depression: Explaining long-term gender differences in vulnerability. *Journal of Health and Social Behavior, 33*(1), 10–24.

UNdata. (2017). *Life expectancy*. Retrieved September 17, 2020, from http://data.un.org/Search.aspx?q=life+expectancy

Underwood, P. W. (2005). Social backing: Promise and reality. In V. H. Rice (Ed.), *Handbook of stress, coping, and health: Implications for nursing research, theory, and practice* (pp. 419–444). Sage.

Valente, T. W. (2012). Network interventions. *Science, 337*(6090), 49–53.

van Droogenbroeck, F., Spruyt, B., & Keppens, G. (2018). Gender differences in mental health problems among adolescents and the role of social support: Results from the Belgian health interview surveys 2008 and 2013. *BMC Psychiatry, 18*(1), 1–9.

van Emmerik, I. H. (2006). Gender differences in the creation of different types of social capital: A multilevel study. *Social Networks, 28*(1), 24–37.

Veale, J. F., Watson, R. J., Peter, T., & Saewyc, E. M. (2017). Mental health disparities among Canadian transgender youth. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine, 60*(1), 44–49.

Veiel, H. O. F., & Herrle, J. (1991). Geschlechtsspezifische Strukturen sozialer Unterstützungsnetzwerke [=Gender specific structures of social support networks]. *Zeitschrift für Soziologie, 20*(3), 237–245.

Vyncke, V., Hardyns, W., Peersman, W., Pauwels, L., Groenewegen, P., & Willems, S. (2014). How equal is the relationship between individual social capital and psychological distress? A gendered analysis using cross-sectional data from Ghent (Belgium). *BMC Public Health, 14*(1), 960.

Walen, H. R., & Lachman, M. E. (2000). Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of Social and Personal Relationships, 17*(1), 5–30.

Winter, S., Diamond, M., Green, J., Karasic, D., Reed, T., Whittle, S., & Wylie, K. (2016). Transgender people: Health at the margins of society. *The Lancet, 388*(10042), 390–400.

Witcomb, G. L., Bouman, W. P., Claes, L., Brewin, N., Crawford, J. R., & Arcelus, J. (2018). Levels of depression in transgender people and its predictors: Results of a large matched control study with transgender people accessing clinical services. *Journal of Affective Disorders, 235*, 308–315.

World Health Organization. (2018). *Global status report on alcohol and health 2018*. Retrieved September 28, 2020, from https://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf?ua=1

World Health Organization. (2019). *World Health Statistics 2019: Monitoring Health for the SDG's*. Retrieved September 18, 2020, from https://apps.who.int/iris/bitstream/handle/10665/324835/9789241565707-eng.pdf?sequence=9&isAllowed=y

World Health Organization Europe. (2018). *European health report. More than numbers—Evidence for all*. Retrieved September 17, 2020, from https://www.euro.who.int/en/publications/abstracts/european-health-report-2018.-more-than-numbers-evidence-for-all-2018

World Health Organization Europe. (2020a). *European Health Information Gateway. Deaths, Suicide and intentional self-harm, female*. Retrieved October 21, 2020, from https://gateway.euro.who.int/en/indicators/hfamdb_761-deaths-suicide-and-intentional-self-harm/visualizations/#id=31292&tab=table

World Health Organization Europe. (2020b). *European Health Information Gateway. Deaths, Suicide and intentional self-harm, male.* Retrieved October 21, 2020, from https://gateway.euro.who.int/en/indicators/hfamdb_761-deaths-suicide-and-intentional-self-harm/visualizations/#id=31293&tab=table

World Health Organization Europe. (2020c). *European Health Information Gateway. Population self-assessing health as good, females*. Retrieved October 22, 2020, from https://gateway.euro.who.int/en/indicators/hfa_419-2802-population-self-assessing-health-as-good-females/visualizations/#id=19436&tab=table

World Health Organization Europe. (2020d). *European Health Information Gateway. Population self-assessing health as good, males*. Retrieved October 18, 2020, from https://gateway.euro.who.int/en/indicators/hfa_418-2801-population-self-assessing-health-as-good-males/visualizations/#id=19435&tab=table

World Health Organization Europe. (2020e). *European Health Information Gateway. Premature mortality, female*. Retrieved August 21, 2020, from https://gateway.euro.who.int/en/indicators/h2020_36-premature-mortality-females/

World Health Organization Europe. (2020f). *European Health Information Gateway. Premature mortality, male*. Retrieved August 21, 2020, from https://gateway.euro.who.int/en/indicators/h2020_35-premature-mortality-males/visualizations/#id=26718&tab=table

World Health Organization Europe. (2020g). *Tobacco smoking, females*. Retrieved September 21, 2020, from https://gateway.euro.who.int/en/indicators/h2020_4-tobacco-smoking-females/visualizations/#id=17075&tab=table

World Health Organization Europe. (2020h). *Tobacco smoking, males*. Retrieved October 18, 2020 from https://gateway.euro.who.int/en/indicators/h2020_3-tobacco-smoking-males/visualizations/#id=17074&tab=table

Zeiher, J., Kuntz, B., & Lange, C. (2017). *Smoking among adults in Germany*. Retrieved September 21, 2020, from https://www.rki.de/EN/Content/Health_Monitoring/Health_Reporting/GBEDownloadsJ/FactSheets_en/JoHM_2017_02_Smoking_adults.pdf?__blob=publicationFile