Social Networks, Family Social Capital, and Child Health

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Overview

- Social networks for children consist in the inner circle mainly of members of the core family (parents, siblings) and in the extended circle of other family members such as grandparents and friends. Network size and the proportion of friends in the network increase with age.
- A literature review shows that child health is influenced directly by the child's social network as well as indirectly by the social network of the parents.
- Of the various theoretical mechanisms that can be used to explain these findings—for example, social support, social contagion, or social control—the support mechanism is best empirically confirmed. However, "real" network studies, in which family networks are established on the basis of names, are rather rare in the age range considered here.
- Family social capital correlates positively with the socioeconomic resources of parents in Western industrialized countries. In emerging and developing countries, it is apparent that children's health is increasingly dependent on the availability of social support.

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1 Introduction

Since the late 1980s, when the so-called salutogenesis model became established, researchers and practitioners in the field of health promotion have been looking not only for factors that cause illness, but also for factors and dynamic interactions that lead to the development and maintenance of health. Social relationships are considered helpful and supportive in this context. Their improvement is one of the goals of health promotion.

This article deals with the family as a core area of social relationships and also looks at the physical and mental health of children (up to 13 years of age). Family influences on children's health are manifold (cf. Rattay et al., 2012): From early childhood to adolescence, children learn how to deal with their bodies, health, illness, and coping strategies in the family. In everyday interaction in the family and through the social contexts to which the family provides access, children and adolescents acquire basic knowledge and attitudes that contribute to their development in psychological, physical, social, and cognitive terms. According to Rattay et al. (2012, p. 146), health-related socialization takes place in particular through everyday family practices such as the organization of meals, physical activity, and leisure behavior in the family, fixed times of day for getting up and going to bed, use of medical services, and family attitudes, for example, regarding hygiene. But adolescents are also more or less directly exposed to harmful practices such as the consumption of tobacco and alcohol in their families.

Research distinguishes between protective factors of family and risk factors. Risk factors include, for example, unfavorable material conditions, parents' low level of education, unemployment, cramped housing conditions, family conflicts, physical or mental illness of one parent, poor availability of primary caregivers in early childhood, neglect, or violence (Tiber Egle et al., 2002).

This paper is a literature review that focuses on protective social factors that influence child health. It focuses on (1) direct influences of the child's social network, for example, social support by parents, and (2) indirect influences of the parental network on the child, for example, in the form of emotional or instrumental support of parents by grandparents.

First, Sect. 2 discusses how children's social networks are composed, which functions they theoretically fulfill and which effects on health they might have. The concept of "family social capital," which goes back to James Coleman, is integrated into the discussion. Section 3 then briefly discusses, as a starting point, studies that use the socioeconomic status of the family as a predictor of the child's health status. On this basis, Sect. 4 will provide a literature review of network effects, which will be examined again in Sect. 5, in particular regarding the extent to which they occur independently of classical dimensions of inequality and how they are linked to these dimensions. In Sect. 6, a concluding discussion of the findings will follow.

2 Children's Networks: Structure, Functions, and Effects on Health and Family Social Capital

2.1 Structures, Functions, and Health Effects of Social Networks of Children

Nestmann and Wehner (2008, p. 22–27), building on Vaux (1988), describe the spectrum in which social networks can influence the health of children. They take a developmental psychological perspective. According to the attachment theory (Bowlby, 1975), a secure foothold and a trustful relationship with the closest caregivers enable the infant to explore new social relationships and spheres of life. Beyond the mother–child relationship, however, attention should be paid at an early age to a possible network perspective that takes up the influences of so-called exosystems (Bronfenbrenner, 1981) in addition to other persons in contact with the infants (e.g., fathers, siblings, grandparents, caretakers). This means that persons and institutions indirectly affect children through their closest caregivers. In addition to the social networks of the children themselves, the networks of the parents must therefore also be included in the analysis (cf. Cochran & Brassard, 1979).

In direct contact with parents' network members, the children receive various cognitive and social stimuli that affect their development: different interaction styles and forms of attention, divergent interaction content (e.g., talking, playing, reading aloud), and other interaction settings (e.g., the grandparents' household). In addition to these suggestions, the children experience other forms of support and regulation. Members of the parental network also serve as behavioral models (social learning) and offer the children interaction opportunities that strengthen their social competence.

Persons from the parents' network, such as grandparents, friends, or neighbors, can indirectly influence the children in various ways: They give the parents explicit or implicit feedback on child care and upbringing, support them in parenting and care (e.g., in emergencies and illness), emotionally confirm the parents in their role as parents, and provide support. In addition, network persons represent learning models that provide access to a wider range of interaction styles, strategies for everyday management, or conflict resolution skills. In addition to the positive impulses listed, however, negative influences such as unsolicited advice, contradictory guidelines, or negative examples of behavior must also be considered.

From this, we can already deduce some central mechanisms by which social networks of the child itself or parental networks influence the child's health (for theoretical mechanisms, see chapter "Social Relations, Social Capital, and Social Networks: A Conceptual Classification" as well as chapter "Social Network Mech anisms"). Heuristically, four aspects can be differentiated:

- *Social support:* Erhart and Ravens-Sieberer (2008) distinguish between a shielding, buffering, and tolerance effect regarding social support. Emotional or instrumental support prevents crisis situations (shielding effect), can reduce negative effects in crisis situations by the development of coping strategies

(buffering effect), and strengthens abilities to deal with health disorders that have already occurred (tolerance effect). Examples of the shielding effect would be the warm dressing of the child in winter or a vitamin-rich diet. If network members strengthen the self-esteem and coping optimism in stressful situations, for example, when the child is stressed at school, this would be an example of the buffer effect. When network members emotionally support a sick child, this is an example of the tolerance effect.

- *Social control:* In families with a high degree of cohesion, parents and also persons from the parents' network (e.g., grandparents) are more likely to keep children away from "risk-fashion" activities or behavior that is harmful to health through (informal) social control. With high cohesion, the child's state of health can also be better monitored and, if necessary, reacted to ("monitoring").
- *Social influence:* In families with a high degree of cohesion, parents are more likely to have the opportunity, for example, to actively influence the children's eating habits through regular meals together and promote knowledge about healthy eating. The same applies to physical activity (e.g., sports) or media consumption. Close family social relationships also promote social community and a positive mood. This avoids negative isolation effects such as depression or neglect of diet or self-care.
- *Social contagion:* The parents themselves, but also persons from the parents' social network, firstly represent models of behavior for children and adolescents whose attitudes and behavior can be adopted in the context of social learning (Bandura, 1977). Secondly, an indirect mechanism is that caregivers of the child selectively establish or maintain relationships with network persons who have similar attitudes and behaviors in the area of health as themselves (homophilia; Kennedy-Hendricks et al., 2015).

In the next step, the question arises as to which persons from the child's network or the parental network take over what functions and whether there are differences, depending on the child's age. Regarding the structure of child networks, Levitt et al. (1993), following Kahn and Antonucci (1980), use the metaphor of the caravan, an ideal type of structural network development over the course of a child's life. According to this metaphor, a small convoy of the closest family first travels through early childhood, then quickly enriches itself through kinship, friendship, and neighborhood, and enlarges in late childhood or adolescence when peers and first institutional contacts (kindergarten, school) join in. Building on this "convoy model," Levitt et al. (1993) use concentric pie charts to delineate network persons of the children (here between 7 and 14 years of age) who form the innermost circle of the network (greatest importance for the child and proximity to the child) or the middle and outer circle. The innermost circle consists almost exclusively of close family members (parents, siblings) or other family members such as grandparents. The middle circle is heterogeneous (family members outside the nuclear family predominate, but friends are also gaining in importance), and in the outer circle, friends are the largest group. With the age of the children, the size of the network, the proportion of friends, and the perceived potential for social support (especially through friends) increase in the network (see also Bost et al., 2004).

In a study of social networks of children aged 4–8 years, Boosman et al. (2002) show how the various network persons carry out different network influences (social control, social support, and childcare). As expected, it turns out that all three functions are generally fulfilled most frequently by parents. If, however, a subdivision is made according to types of support, a more differentiated picture emerges: Peers most often provide support that manifests itself in the form of sociability and opportunities to play. Conflicts are also more often carried out with peers rather than parents. Grandparents are structurally like parents, but at a lower level. In other words, they exercise social control relatively often, are strongly responsible for childcare (e.g., eating, dressing), and offer emotional as well as instrumental support. Following parents and peers, siblings also play an important role in the area of sociability. However, the level of conflict with siblings is lower than with peers. Teachers are somewhat surprisingly rarely named as significant influencers, even in the area of "informational support." Finally, children also classify cuddly toys and dolls as symbolic network persons in some places, for example, in the area of emotional support.

Only rarely is it discussed in the literature what properties individual *ties* or the network as a whole must have in order for the mechanisms discussed above to work. Erhart and Ravens-Sieberer (2008) indicate that the shielding, buffering, and the tolerance effect of social support are particularly effective when, on the one hand, several supporters are available and, on the other hand, support is long-term in scope. Similarly, in a Mexican study Kana'iaupuni et al. (2005) expect that social networks containing either a high proportion of blood relatives (parents and siblings) or a high proportion of "extended kin" can provide more social support or a particularly intensive form of support. The term "extended kin" includes persons of trust in a culturally anchored reciprocal support system as well as godparents of the children. It is also expected that physical proximity, residence, and a high frequency of contact will have a positive effect on the support potential. Thus, it can be cautiously assumed that dense networks with a high proportion of relatives, which accordingly consist mainly of *strong ties*, should be particularly beneficial to children's health. This differs from adolescents in whom weak ties increasingly gain importance (see, for example, Small, 2017 and Moor et al., in this volume).

2.2 The Approach to the Family Social Capital of Children

The concept of "family social capital," which goes back to Coleman (1990), can also be linked to the network perspective discussed, but at the same time it is broader. Here, it is postulated that the family background of a child consists of three components: (1) financial capital (the financial resources available to the household as a whole and the child in particular), (2) parental human capital (e.g., parents' cognitive skills and educational attainment), and (3) social capital (the resources available in social relationships that are useful for the cognitive and social development of children and young people).

Social capital generally establishes a conceptual link between the characteristics of individual actors and their immediate social contexts in the home, school, and neighborhood and, thus, in non-family network relationships. Intra-familial social capital refers to the parent–child relationship and manifests itself through the time and attention parents devote to interacting with their children, exercising social control, and promoting their well-being. Family social capital is operationalized in research on indicators that can be assigned to two main dimensions: (1) the structural dimension (family structure)—for example, the nuclear family (with two biological parents in the household) vs. stepfamily or single parents and number of siblings, or (2) the functional dimension (the existence of beneficial interactions between parents and children).

Critically, it can be argued that the concept of "family social capital" is defined too broadly.[1] Social capital includes family cohesion, the quality of the parent–child relationship (e.g., frequency of contact, emotional closeness), and structural aspects of the child's or the parents' network. The latter includes, for example, network size, density, and centrality (Alvarez et al., 2017).

Alvarez et al. (2017) have prepared an overview based on a literature review, which is shown in Table 1. The areas of family cohesion and family support can be understood as differentiations of the functional dimension according to Coleman (1990) and the construct of the family network as a representation of the structural dimension.

The concept of social cohesion is more presuppositional than the concept of social capital, and it is described, especially in family psychology, as a central criterion of family functioning (e.g., Dilworth-Anderson et al., 2005). It is thus possible that despite a pronounced social capital, there is no social cohesion. Conversely, the absence of social capital seems difficult to conceive with given social cohesion.

3 Social Inequality and Child Health

An extensive literature is devoted to the connection between social inequality and (childhood) health. It is based on the concept of socioeconomic status, that is, the individual's position in a society characterized by inequality in the distribution of

[1] Coleman's concept of family social capital (1990) and the operationalization of the concept in research have been criticized in several respects (Alvarez et al., 2017; Morrow, 1999). It has been argued that children and young people in particular are seen as mere beneficiaries of social capital, while how they themselves contribute to its creation is overlooked (Morrow, 1999). It should also be critically noted that the concept of "(family) social capital" is blurred by the multitude of concepts it combines. It covers both structural aspects (e.g., the family form) and concrete support services from the network to feelings of belonging, patterns of interaction, or the emotional closeness between parents and children (Morrow, 1999). Here, the conceptual delimitation to other, sometimes more selective terms such as lifestyle, is missing (Wippermann, 2009).

Table 1 Concepts for measuring family social capital

Construct	Substructure	Example items
Familial cohesion	Collective effectiveness	Perception to function well as a family.
	Informal control	How many hours are children at home after school without parents? Do parents know the child's friends? Do parents allow the child to go out with friends unknown to them? Do parents check if children have done their homework?
	Social Interaction	Frequency of joint parent–child activities such as meals, games, conversations, and celebrations.
	Sense of membership	Do family members respect each other? Do they feel mutual loyalty and trust?
Familial support	Emotional support	Do family members talk about concerns? Are relatives reliable people who help with serious problems? Are family members given emotional support, empathy, and love?
	Instrumental Support	Parents help with homework.
	Conflict	How often do family members criticize each other? Do personal goals conflict with those of the family?
Social network (of the child or parents)	Network structure	Network size, density, and centrality; Gender and age composition; Scope of the family network (parents, siblings, parents-in-law, other relatives).
	Relationship quality	Proximity of residence and frequency of contact and emotional closeness.

Source: Own presentation based on Alvarez et al. (2017, p. 19)

privileges and wealth. This is accompanied by advantages and disadvantages regarding the availability of various goods. These include, on the one hand, classical goods such as income, wealth, power, social prestige, education, or knowledge and, on the other hand—as in the concept of social status (Hradil, 1987)—socio-cultural participation in the areas of work, education, housing, leisure, and culture.

In a multi-level model, Lampert and Schenk (2004) systematize various theoretical approaches to explaining the connection between social inequality and child health. According to this model, the social situation of the household, measured, for example, by class affiliation, income situation, and family form (single parents), is related to living conditions and opportunities for participation. This includes, for example, material provision, family situation, housing conditions, leisure time behavior, and the composition of the peers as well as the chosen school or daycare center. Living conditions and opportunities for participation in turn have an impact on health behavior (e.g., diet, physical activity, alcohol and tobacco consumption, oral hygiene) and on the personality, which is expressed, for example, through

self-esteem, control convictions, optimism, or aggressiveness. Health behavior and personality, which are also mutually dependent, ultimately lead to health inequalities, which manifest themselves in diseases, disabilities, accident injuries, subjective and mental health, or behavioral disorders.

Numerous empirical studies show that there are links between social and health inequalities among children and adolescents. The corresponding results are briefly summarized here based on the research overview by Lampert and Richter (2009), parts of which have been updated:

- *Infant mortality*: The empirical evidence to date, which is limited to regional data, shows increased infant mortality in lower social classes. This also applies to risk factors such as lower birthweight and congenital malformations (Mielck, 1998).
- *Developmental disabilities*: According to annual school entry examinations by the Public Health Service (see for the state of Brandenburg: Ellsäßer & Lüdecke, 2015), developmental disorders are significantly more frequent in children with a low social status (measured by the education and employment status of the parents). While, for example, speech and language disorders were diagnosed in 43.9% of cases among children with a low social status, the figure was only 13.2% among children with a high social status. Similarly, large differences are also found, for example, in perceptual and psychomotor disorders, intellectual developmental delays, emotional and social disorders, and psychological abnormalities. One reason for this may be that socially disadvantaged population groups make less use of the so-called German U screenings (developmental checkups for babies and children) (Ellsäßer & Lüdecke, 2015).
- *Chronic diseases*: Chronic diseases in children also show a social gradient: According to the findings of the Brandenburg school enrollment survey of 2015 (Ellsäßer & Lüdecke, 2015), children with low social status are chronically ill in 23.7% of cases. Examples are somatic illnesses (e.g., speech, vision, or hearing disorders) or mental illnesses such as ADHS and emotional social disorders. This proportion is significantly lower with high social status at 9.5%.
- *Accidental injuries*: Data on accidents at school, daycare, at home, during leisure time, and in road traffic were examined sporadically regarding connections with the social situation. An older study by Geyer and Peter (1998) shows that children of unskilled and semi-skilled workers as well as of skilled workers are more often treated in hospital due to accidents than children of employees and persons in higher occupational groups.
- *Psychosocial health*: Findings based on the "Health Behaviour in School-aged Children" (HBSC) study (e.g., Richter et al., 2008) show that children and adolescents aged 11–15 years have a better subjective health with increasing family wealth. Similar social differences are also reported for psychosomatic complaints such as headaches, stomach and back pain, sleep disorders, or issues related to emotional well-being.
- *Health behavior*: Also, on the basis of the HBSC studies, status-dependent differences, for example, in nutrition (children from socially disadvantaged families eat fresh fruit and vegetables less often), as well as differences in the

frequency of tobacco and alcohol consumption, which decreases with social status, can be shown.

Lampert and Richter (2009) sum up that although social status is operationalized very differently in the research landscape (e.g., through the education and occupational status of parents, but also through the prosperity of the family), the various status indicators largely correspond in their effects. They conclude that there is a comparatively close connection between the social and health situation of adolescents (see also chapter "Social Networks and Health Inequalities in Young and Middle Adulthood"). It is of particular interest to investigate the extent to which both network effects and inequality effects are related. It is conceivable, for example, that the negative effects of a low level of socioeconomic resources are weaker if the family has compensators in the form of social support.

4 Social Networks, Family Social Capital, and Children's Health: A Literature Review

When reviewing the state of research, a conceptual distinction is made between two perspectives:

1. How is the health status of children influenced by members of their immediate family network (Sect. 4.1)?
2. What influence do parents' social networks indirectly exert on children's health (Sect. 4.2)?

4.1 Child Networks and Children's Health

In this section, the first step is to focus on studies that look at the effects of the child's social network on his or her health and also use a network methodology in the narrower sense, that is, by constructing ego-centric networks. This criterion is met by the two developmental psychological studies by Levitt et al. (1993, 2005). Secondly, the state of research is briefly summarized for studies that use the broader concept of "family social capital" (Bala-Brusilow, 2010; Berntsson et al., 2007; Erhart & Ravens-Sieberer, 2008; Eriksson et al., 2012; Klocke, 2004; Klocke & Lipsmeier, 2008; Lau & Li, 2011; Morgan & Haglund, 2009; Rattay et al., 2012; Wu et al., 2010). These studies are also largely discussed in a recent literature review by Alvarez et al. (2017).

Levitt et al. (1993), based on a sample of N = 333 American schoolchildren aged 7–14 years, examine how affective-emotional and instrumental social support in general, and social support from the innermost circle of the child's network in

particular ("convoy model," see Sect. 2.1), have an impact on two aspects of mental health: the positive self-concept and an index of the child's general mood and sociability. Social support from the social network as a whole, but in particular from the innermost circle, which consists mainly of members of the nuclear family (parents, siblings), has medium positive effects on both health factors.

In a more recent study (also with school children ages 9–13), Levitt et al. (2005) extend these findings by a typological approach. A cluster analysis shows that there are three structural types of child networks: a type in which social support is given from members of the nuclear family and from close friends ("close family/friend"), a type with support exclusively from the family ("close family"), and a type with diverse support from the nuclear family, the extended family and friends ("close/extended family"). Again, the positive self-concept, loneliness, and internalized as well as externalized behavioral problems (e.g., feelings of worthlessness, physical violence) are used to investigate aspects of "psychological adjustment." The findings show that children's self-concept is most positive, and loneliness is least pronounced when their social networks provide support from several sides—either from close family members and friends or from members of the close and extended family (e.g., uncles, aunts, cousins).

In the studies that can be subsumed under the term "family social capital," family social capital is not recorded via name-based network indicators (as in the aforementioned studies), but via so-called global indicators. Here are two examples: Erhart and Ravens-Sieberer (2008) cover the structural dimension according to Coleman through the family form (nuclear family, stepfamily, single parents) and the functional dimension through emotional support by (step-)parents and older siblings and instrumental support by parents in school. Morgan and Haglund (2009) operationalize family social capital—following the cohesion approach—on the one hand through common activities in the family, for example, sitting together and talking or visiting friends, and on the other hand through the extent of social control by parents ("How often does your mother or father try to control everything you do?").

The health indicators show a broad spectrum. They cover psychological and psychosomatic aspects (e.g., life satisfaction, pressure to perform at school, nervous stomach problems), health-related behavior (e.g., physical activity, brushing teeth, family meals, television consumption, fruit and vegetable consumption, tobacco and alcohol consumption), physical health (injuries, obesity), and global indicators on general health.

Methodologically, the effects of social capital indicators on health indicators are usually determined within the framework of hierarchical regression models, which are estimated without and with the control of socioeconomic variables such as education, occupational prestige, and parental income. The results of these analyses lead to the conclusion that the social capital approach in general has great potential to explain children's health. It is shown very consistently that almost all social capital indicators have a positive influence on health indicators in the expected way, mostly when socioeconomic status is controlled.

Two studies are particularly noteworthy. The work of Rattay et al. (2012) is instructive in that it tests—made possible by a relatively large number of cases—whether the effects of social capital indicators on children's health depend on the age of the child or adolescent, with five age groups being considered (0–2 years, 3–6 years, 7–10 years, 11–13 years, 14–17 years). For example, a family climate scale that measures family cohesion has explanatory power across ages and genders: Children and adolescents are consistently rated as significantly healthier when the family climate is better. In contrast, one or more siblings only have a negative effect on the general health of boys in the age range 0–2 years, whereas no effects are observed for older children and for girls.

A special feature of the study by Wu et al. (2010) is that, within the framework of structural equation models, family social capital is analytically embedded as a mediator in an explanatory chain. Exogenous variables at the beginning of this chain are family human capital (parental education) and family income. Mediators or intervening variables are the family social capital (positive family interaction, social control, and monitoring) and the "community social capital" (e.g., neighborhood subjectively perceived as safe, number of friends in the neighborhood). Depression among children is the outcome variable. Path analyses show that family human capital has a direct negative influence on depression and an indirect negative influence, since a high level of education among parents leads to more family social capital, which in turn has a negative effect on the children's depression. In addition, higher social capital in the neighborhood also leads to more pronounced family social capital and thus to lower depressiveness.

4.2 Parental Social Networks, Family Social Capital, and Children's Health

The literature search resulted in four studies that look at indirect effects of parental social networks. These can be arranged as follows: Runyan et al. (1998) base their analyses on a sample of extreme cases drawn by special screening techniques. The studies by Adams et al. (2002), Kennedy-Hendricks et al. (2015), and Kana'iaupuni et al. (2005) are also characterized by the fact that a network methodology in the narrower sense (name-based, ego-centered networks) is used. Furthermore, Adams et al. (2002) and Kana'iaupuni et al. (2005) are studies that were not conducted in Western industrialized countries (Mali, Mexico). In all four cases, therefore, a somewhat more detailed discussion seems appropriate.

Runyan et al. (1998) use a sample (Longitudinal Studies on Child Abuse and Neglect, LONGSCAN) in which children who have been exposed to particular health risks since birth are overrepresented. Criteria for this include low birthweight, a single parent without family support, the young age of the mother at birth, the mother's alcohol or substance abuse, maltreatment, or growth disorders. Child well-being is measured by indicators of developmental or behavioral problems: anxiety,

depression, physical complaints, social problems, concentration and sleep problems, rule-breaking and aggressive behavior, and motor, adaptive, linguistic, and cognitive skills. In a case-control study, children who are classified as clinically "abnormal" on this basis are compared with inconspicuous children. The children are on average 4.5 years old.

According to Coleman (1990), social capital is measured firstly by the structural dimension (the presence of two parents in the household as well as the number of siblings). However, seven global indicators are used to measure the extent to which the child's primary caregiver has functional and emotional support from their social network (examples: Ego knows people with whom he can talk about problems, receives invitations to go out with others, receives love and affection, receives advice on important aspects of life, is supported in his own illness, knows people who care about how he is doing). The form of social support measured in this way is considered individually and added to other social capital indicators (two parents in the household, a maximum of two children, social support from the neighborhood, regular attendance at church) to form a total score, or a "Social Capital Index." Advanced network measures are not reported.

Empirically, it has been shown that the personal social support of parents is significantly weaker in children classified as conspicuous than in inconspicuous children. The same applies to regular church attendance and the social capital index as a whole. The structural indicators (two parents in the household, no more than two children) do not exert any significant influence bivariate. The positive effect of the social capital index on child development and health remains stable even in a logistic regression model that controls for mother education, family income, and maternal depression.

Kennedy-Hendricks et al. (2015) is the only study discussed here that aims at processes of social contagion. The sample is based on rather disadvantaged families in the context of social housing. A survey of name-based ego-centric social networks of parents is used to examine the extent to which the network persons (especially in the neighborhood) represent positive behavioral models for the children in connection with health aspects, for example, by eating a health-conscious diet, being physically active, or not being overweight. Empirically, it has been shown that children themselves are more active in sports and less likely to be overweight if there are many physically active and non-overweight persons in the parents' networks. These results support the assumed social learning and contagion processes, even if they are not directly tested.

Kana'iaupuni et al. (2005) use data from the Health and Migration Survey (HBS) for some selected Mexican villages ($N = 620$) to show that the extent of emotional and financial support for parents from their network members increases less with the number of blood relatives than with the number of persons (in close spatial proximity) who are considered extended relatives. These include the above-mentioned confidants and godparents of the children. Highly interactive social networks of this nature, mediated by emotional and financial support, also have an expected positive effect on the children's general health, especially in families with few material resources.

Adams et al. (2002) survey N = 1008 mothers in Mali from two tribes (Bamanan, Fulbe). A name generator is used to determine the size of specific social subnetworks that provide material, practical, cognitive, and emotional support for the mother. In addition, various network characteristics are recorded in relative detail: gender and age composition, the spatial proximity of the network members, and the relationship status with the mother (relatives, friends). Using a Cox regression, the mortality risk of the child in the first five years of life is estimated. The child's mortality probability decreases significantly as the size of the network increases and as the number of persons providing practical, cognitive, and emotional support increases. This is particularly true for the Fulbe population, which is particularly affected by poverty. The different structural network characteristics (e.g., percentage of relatives, percentage of network members living in the household) are multivariate insignificant.

5 Family Social Capital, Children's Health, and Social Inequality

In the next step, family social capital and children's health are associated with social inequality by briefly evaluating the studies referred to from this perspective. Two questions are at stake:

1. Does a low socioeconomic status of parents, mediated by a low level of family social capital, lead to poorer child health?[2]
2. Is there an interaction effect between socioeconomic status and family social capital in predicting child health? Does a high level of social capital therefore have a different effect on health depending on social class?

Regarding the first question, it should first be noted that, particularly in sociological studies from the field of family social capital research, multivariate models are calculated in which both social capital indicators and characteristics of the socioeconomic situation (education, income, and employment status of parents) are represented. In general, the findings make it clear that family social capital retains its independent explanatory power even when socioeconomic indicators are controlled. Therefore, social capital is not merely a function of the socioeconomic situation, but has independent effects.

At the same time, those studies that use either hierarchical regression models or, as Wu et al. (2010) use, structural equation models, show that family social capital is dependent both on other social capital subdimensions (school, neighborhood) and on the family's socioeconomic status. Wu et al. (2010) differentiate this dependency in that families with a high level of parental education in particular have more social

[2] For a detailed theoretical discussion of the relationship between socioeconomic status and social capital, see Hartung (2013, p. 139–175).

capital (here, above all, family cohesion). These findings confirm the mediation hypothesis formulated in question 1.[3]

A general sociological explanation is that socioeconomic disadvantage is not only associated with material limitations, but also leads to reduced opportunities for participation and weaker social integration: As a rule, socially disadvantaged people do not expand their social networks, but rather withdraw to family and close circles of friends, who are often just as resource-poor as the people affected themselves (cf. Hartung, 2013, p. 73ff). For example, in a study on elementary school students at high risk for the attention-deficit/hyperactivity disorder (ADHD) syndrome, Bussing et al. (2003) show that African American and disadvantaged parents reported smaller network sizes than their white and high-SES counterparts.[4] Wu et al. (2010) postulate that the family's socioeconomic situation also determines the choice of place of residence and also the resources that can be mobilized through neighborly relationships. According to Coleman (1990), it is to be expected that wealthy parents invest particularly large resources in the quality of the parent–child relationship, since the transmission of parental education and financial well-being to children requires intensive parent–child interactions. The findings are also consistent with the alignment hypothesis of West (1997). According to this, differences in health in early childhood are relatively strongly influenced by the socioeconomic position of the family, which—according to the findings discussed here—is also reflected in a specific endowment with social capital. However, in early adolescence health-specific differences between the various social strata largely disappear, as leveling influences emanate from school, peer group, and youth culture.

Regarding the second question, it is necessary to refer to the study by Klocke (2004), which focuses more on young people with an age range of 11–15 years. Here, an interaction effect between material resources and social capital in predicting health is tested. The findings show that health-related behavior (smoking) improves in all social inequalities with increasing family cohesion and parental support for the child. Even if low material resources often go hand in hand with low social capital, children and adolescents can benefit from good social capital in all social situations.

Even if no interaction effect between socioeconomic status and social capital in the prediction of health is shown for this example from Germany (and research question 2 must therefore be answered in the negative here), the studies on non-Western industrial nations (Adams et al., 2002; Kana'iaupuni et al., 2005) show a different picture: Under the condition of greater material deprivation (Mexico) or extreme poverty (Mali), social capital becomes a compensating or existential factor for the health or survival of children. Even within the two countries discussed

[3] According to Wu et al. (2010), however, the decisive factor here is how the socioeconomic status of the parents is operationalized. Thus, the study comes up with the surprising finding that the financial resources of the parents lead to a greater depressiveness of the child. This is explained by the fact that financial resources are an indirect indicator of the amount of work parents do, which reduces the time spent on joint parent–child interactions.

[4] At the same time, however, African American and disadvantaged parents reported more frequent contact and higher levels of social support.

here, the children of particularly poor families benefit most from social support that is available to their parents.

6 Conclusion

First of all, it is generally recognized that the network perspective and the family social capital approach are very helpful in explaining child health. In almost all cases, the expected positive correlations with health indicators are evident.

Nevertheless, some aspects are to be discussed critically. In particular, sociological studies that are based on the concept of social capital explicitly or implicitly assume that parents are the essential network persons through whom the child gains access to important resources, such as attention or support. In addition, siblings are sometimes also taken into account. Other possible members of the family network, such as grandparents, uncles, or aunts and godparents, are not considered, in contrast to the more differentiated convoy model of the group of authors around Mary J. Levitt.[5] Overall, studies that conduct "real" network analyses (e.g., ego-centric studies) are rare in the present context.

If the reported findings are interpreted causally, alternative explanations must be referred to in some cases. For example, Martin (2008) states that the connection between the weight of parents and their children is largely due to genetic factors, because the physiological prerequisites for body weight are inherited and predispositions to certain lifestyle characteristics (e.g., physical activity) are partly genetic. If this genetic disorder is statistically controlled within the framework of a twin study,[6] it becomes apparent that socially caused lifestyle factors both lose explanatory power (mediation) and can gain in importance, that is, are variably hidden by genetic factors (suppression). In the studies discussed here, genetic factors are usually not controlled for, which sometimes leads to problems of interpretation.

Schultz et al. (2009) also examine the question of whether children's health has an effect on the social capital of parents. If indications of such a reverse causality could be found, this would partly call into question the reported findings in their previous reading. Empirically, however, a study of parents who are observed from birth over a three-year period shows that more or less serious health problems of the baby (e.g., low birthweight, disabilities) have no effect on various social capital indicators as frequency of visits to relatives, frequency of going to church, and activity in organizations.

[5] Another suggestion to capture broader family configurations comes from Widmer (2006). The "family network method" developed here essentially is formed by name generators, in which Ego is asked to name significant family members who have played an important role in his life at present or in the past year. These can be loved and respected persons as well as persons with whom conflicts exist. A survey based on a student population using this method leads to different types of family social networks that include not only blood relatives but also stepparents and friends who are subjectively considered significant family members (e.g., godparents).

[6] Multi-group comparisons in structural equation models with monozygotic and dizygotic twins.

Regarding theoretical mechanisms, an explicit test has so far been most likely to be applied to the mechanism of social support. While the support potential from the network has been measured in a differentiated way, measurement tools and research designs for the mechanisms of social control or social contagion are not fully developed yet. There is still a great need for research in this area.

Finally, another interesting aspect concerns the interaction between informal social support in social networks and professional help with health problems. Theoretically, on the one hand, it is conceivable that social support reduces the probability of professional help—e.g., since the child's state of health improves through the help by network members. On the other hand, professional help could become more likely through social support—e.g., by the transmission of attitudes and norms that facilitate access to professional institutions (Martinez and Lau (2011). The available studies seem to support the first explanation to a greater extent. Martinez and Lau (2011) show that parents whose children have mental health problems tend to be less likely to seek professional help if the level of perceived support from the social network is high. This is partly because children's health actually improves over time when the support potential is high. Bussing et al. (2003) also report that elementary school students are less likely to receive a treatment for their attention-deficit/hyperactivity disorder syndrome if a high level of instrumental support is available in parent's social networks. Despite these first findings, the connection between social support and the utilization of professional help needs more attention and represents an important field for future research.

Reading Recommendations

Alvarez, E. C., Kawachi, I., & Romani, J. R. (2017). Family social capital and health: A systematic review and redirection. *Sociology of Health & Illness, 39*(1), 5–29. A *cross-age overview of research on family social capital.*

Morrow, V. (1999). Conceptualising social capital in relation to the well-being of children and young people: A critical review. *Sociological Review, 47*(4), 744–765. *Critical discussion of the social capital approach.*

Data Sets/Overview

- **Study on the health of young people in Germany (KiGGS)**

Within the framework of the KiGGS study conducted by the Robert Koch Institute, comprehensive and nationally representative health data for children and adolescents were collected for the first time in 2003–2006. Since 2009, KiGGS has been continued as a long-term study. The data can be used to analyze both the current health situation of children and adolescents under the age of 18 and—due to the panel structure of the data—temporal development trends and changes in the life course. Family social capital can be depicted using various global indicators that measure, for example, family cohesion or parental social control. *Access via*

(continued)

- **Health Behaviour in School-Aged Children—WHO Collaborative Cross-National Survey (HBSC)**

The HBSC survey, which takes place every four years, was initiated in 1982 and is currently conducted in 48 countries (Europe and North America). The aim of the study is to collect nationally representative data on the health, family, and social environment and health-relevant behavior of boys and girls in the fifth to ninth grades, who are generally between 11 and 15 years old. Family social capital is operationalized through a number of global indicators such as emotional or instrumental support from parents. *Access via (international) or (Germany)*

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