

Health literacy of children and adolescents: Conceptual approaches and developmental considerations

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Introduction

The interest in children and adolescents' health literacy has strongly increased in recent years (Ormshaw et al, 2013; Bröder et al, 2017). Childhood and adolescence are life phases in which major physical, cognitive and emotional development processes take place. Likewise, health-promoting attitudes, beliefs and behaviours surface in these life phases, and can be supported by meeting children and adolescents' information needs and fostering their active involvement in their own health. Therefore, addressing health literacy from an early age onwards is argued to be a promising investment in children's health and wellbeing now and throughout their adolescence and adult lives (Borzekowski, 2009; Sanders et al, 2009; Velardo and Drummond, 2016).

The health literacy concept is multifaceted, with diverse conceptual understandings. Sørensen and colleagues (2012, p 3) define health literacy as 'being linked to literacy and entail[ing] people's knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention, and health promotion to maintain or improve quality of life during the life course.'

As for adults, there are various health literacy conceptualisations and definitions addressed to children and adolescents, prominently addressed as outcomes of school health education (Joint Committee on National Health Education Standards, 1995; Paakkari and Paakkari, 2012) or through the focus on their parents or care takers' health literacy (DeWalt and Hink, 2009; Connelly and Turner, 2017). Moreover, there is limited evidence available regarding their fit and appropriateness for the target group, given their life phase-specific particularities and needs (Bröder et al, 2017). Indeed, Fairbrother and colleagues (2016) have revealed gaps in understanding not only 'what' health literacy (skills) children and adolescents have and develop in the different life phases, but also 'how' they actually interact with health-related information in their everyday lives. Similarly, Velardo and Drummond (2016) stress the need to bring forward a child-centred

health literacy understanding that integrates children's understanding, attitudes and choices related to health and health-related information.

The purpose of this chapter is, therefore, to highlight life phase particularities for health literacy by exploring children and adolescents' health literacy from development-focused perspectives. Thus, this chapter focuses on:

- synthesising the available definitions, models and research discourse on children and adolescents' health literacy;
- describing and discussing considerations of developmental processes and life phase particularities, for children and adolescents' health literacy available in the literature.

Current conceptual approaches for health literacy in childhood and adolescence

Health literacy is a highly diverse construct, with over 100 different definitions for the general population (Malloy-Weir et al, 2016) and at least 12 definitions and 20 models addressing children and adolescents (Bröder et al, 2017). The major perspectives in the conceptual discussion of children and adolescents' health literacy are synthesised in this section.

Most commonly, it has been described as an individual attribute that addresses how children and adolescents access, comprehend, evaluate and communicate health information and messages, and how these are used for health-related decision-making and behaviours (Bröder et al, 2017). Within most of the conceptualisations there is a focus on the acquisition and utilisation of individual competencies, skills and knowledge that comprise health literacy. Most frequently, there is an emphasis on individual cognitive abilities, such as reading, writing, critical thinking or information-processing skills (Wolf et al, 2009). Nevertheless, it has also been argued to be an umbrella concept, containing, in addition to cognitive attributes, affective attributes (for instance, self-reflection, self-efficacy, motivation), operational or behavioural attributes (such as communicative and social skills) or specific technical skills (such as navigating the healthcare setting or system, technological information-searching skills; see Bröder et al, 2017). An example for a skill-centred concept is provided by Paakkari and Paakkari (2012), who define health literacy as a learning outcome of school health education, and assess students' abilities in a testing situation. Therefore, health literacy is clearly detached from the actual actions or behaviour in a given environment. This skill assessment is common within many performance-based measurement tools of health literacy in school (Ormshaw et al, 2013).

Another common approach concerns areas of action related to health literacy by focusing on how health information is used and applied in different health-related life settings (Sørensen et al, 2012) and the 'context of everyday life', that is, in the family and social environment (Kickbusch, 2008). Hence, health literacy is argued to be a personal and societal asset and a resource for one's own health and

the health of others (Nutbeam, 2008). Moreover, health literacy can be regarded as a tool for personal empowerment (Cron Dahl and Eklund Karlsson, 2016).

At the outcome level, many concepts define broad levels of purposes and effects of health literacy, such as healthy behaviours and increased personal health and wellbeing. Often, models and definitions imply a sequential association effect between health information on the one hand, and 'healthier' decision-making, reducing risks and promoting personal health on the other, being mediated by personal health literacy. This implies the underlying assumption of a rational acting subject, engaging in deliberate health-related choices and actions. By stressing the active role of the individual, these concepts presume a high degree of personal agency – the capacity of acting independent of structural factors (Stones, 2015). Moreover, these assumptions fall short in considering the complexity and broader set of factors affecting behaviour and behavioural change. These are, for example, interdependencies between the subject and their life contexts, cultural factors, social support as well as affective and emotional aspects, such as self-efficacy, self-determination, habits and belief systems (Malloy-Weir et al, 2016; Bröder et al, 2017). As some abilities may be helpful for some children and adolescents in a specific context, other situations and contexts may require the adaptation of such abilities or even totally different abilities. Moreover, children and adolescents' personal abilities as well as their opportunities for applying their health literacy are determined by the demands posed on them in a given situation as well as by their socio-ecological and cultural environments.

The importance of considering health literacy as being linked to a given environment, social contexts (Kickbusch et al, 2013) or as a product of the person's attributes and situational demands (Nutbeam, 2017) has been widely emphasised within the health literacy discourse. For child and adolescent health literacy, Bröder and colleagues (2017) have identified different conceptual approaches in models for addressing the relation of contextual factors and health literacy, but only very few definitions referring to it. Most frequently, contextual factors are addressed as antecedents of health literacy: (a) the interpersonal context, for example parental socioeconomic status and the home environment; (b) situational determinants, such as the degree of social support, and influences from family and peers, the school and community setting, media etc; and (c) the broader social and cultural environment, for example, characteristics of the health and education system, as well as political and demographic variables. Some models address the contextual relationship of health literacy through sociological perspectives, proposing a health literacy socialisation model (Paek et al, 2011), or socio-ecological model of health literacy for adolescents (Wharf Higgins et al, 2009). Within the definitions found in the literature, the relevance of contextual factors is only vaguely considered through the recognition of different health contexts and life settings, for example, in the domains of healthcare, disease prevention and health promotion (Bröder et al, 2017). As a result, the interdependency of sociocultural and socioeconomic factors is recognised, but far less understood than the prevailing focus on individual attributes (Sentell et al, 2017).

Regarding the focus of health literacy in children and adolescents, many studies have addressed the health literacy of people close to the child, such as caregivers, mothers, parents and teachers' health literacy (Mackert et al, 2015). As these people are certainly important contributors to children or adolescents' health and health literacy, researchers have proposed that child and adolescent health literacy be regarded as the sum result of the health literacy skills *and* resources available in the proximal social context, namely, adults, peers or institutions the adolescents trust in. Among others, this is referred to as 'collective' (Sanders et al, 2009), 'distributed' (Edwards et al, 2015) or 'public' health literacy (Freedman et al, 2009).

However, it is equally important to recognise children and adolescents' health literacy potential from a very young age onwards (Borzekowski, 2009). Nevertheless, most conceptualisations have not included these target groups, not even indirectly, so that children and adolescents are just assumed as having similar health literacy needs and skills sets as their close adults (Bröder et al, 2017). Hence, there are still shortfalls in the recognition of children and adolescents' subjective perspectives on health, their informational needs and the adequate levels of participation in health decision-making (Brady et al, 2015; Velardo and Drummond, 2016; Bröder et al, 2017). As a result, this target group particularities and voices remain underrepresented in health literacy literature. To address this gap, together with the purpose of discussing approaches for targeting health literacy in children and adolescents, Okan and colleagues (2016), by building on the existing 4D model (Forrest et al, 1997), proposed a 5D model that highlights five dimensions of particularities in children and adolescents: differential epidemiology and health patterns; demographic patterns and inequalities; developmental processes; dependency within intergenerational relationships and power structures; and democracy through participation and citizenship.

Besides general health literacy, numerous topic-specific (for example, oral, mental or diabetes), area- and context-specific (for example, science, media, technology, information) literacies are defined for the target group or general population (Mackert et al, 2015). The outlined conceptual heterogeneity as well as the occurrence of many specific forms of health literacies – or related literacies – has resulted in a high internal differentiation or even fragmentation of the health literacy concept. Consequently, this conceptual heterogeneity poses challenges for health literacy measurements (see Chapters 5, 6 and 8, this volume), and influences how health literacy for children and adolescents is operationalised and promoted in practice and policy.

Particularities of children and adolescents' development for health literacy

Given the conceptual heterogeneity and gaps in life phase-specific understandings for health literacy of children and adolescents, this section explores and discusses children and adolescents' particularities for health literacy through a development perspective. Developmental aspects are important for better understanding of

(a) how individual health literacy develops during these early life phases, and (b) how general developmental processes and changes interact and affect a child or adolescent's health literacy. Hence, this section outlines current approaches of how developmental aspects are being considered within current child and adolescent health literacy literature and research. It is structured into psychological and sociological perspectives, and then discussed and complemented with insights from the respective theories and research fields.

Psychological perspective on health literacy and development

A common approach for a psychological perspective on health literacy and development is to focus on cognitive abilities – for example, development-dependent health literacy levels with three successive developmental stages (Borzekowski, 2009; Sanders et al, 2009; Lambert and Keogh, 2014). The development perspective from Sanders and colleagues (2009) is presented in Table 3.1 for children up to the ages of 4, 10, 14 and 18. In this model, health literacy is conceptualised within four skill areas (prose/document literacy, oral literacy, numeracy and systems-navigation skills), and examples of activities are provided for each age and development stage. A more extensive classification of such an approach can be found within the US National Health Education Standards (Joint Committee on National Health Education Standards, 1995) that provides a detailed overview of the health literacy skills that students of a certain school grade should achieve.

Advocates of these stage models argue that they may provide an overview or a guideline of what health literacy skills can be expected of children and adolescents at each specific stage, and hence may enable comparisons at the population level. Nevertheless, stage models on child and adolescent development have in common that they set normative standards that a child should be able to reach at a certain age. In other words, such a development perspective is strongly 'top-down' as it limits health literacy to a predefined set of abilities: if a child develops such abilities, he/she is considered health literate; if not, he/she is left to a low score, as, for example, with the widely used measurement tools that typically measure only distinctive skills, such as reading abilities (TOFHLA, Test of Functional Health Literacy in Adults) or word recognition (for example, the REALM measurement tool, Rapid Estimate of Adult Literacy in Medicine) (see Chapters 5 and 6, this volume).

Moreover, stage models offer an idealistic, one-size-fits-all approach, implying that all children develop at the same speed and reach certain levels at a particular age, not taking into account individual–environmental interaction. Hence, they build on the questionable assumption that it is possible to determine how children's understanding of health and illness and their health literacy skills typically evolve, regardless of the environment or the culture in which a child lives. In contrast, Gossen and Nürnberger (2013) have argued that children gain computer skills at an increasingly younger age, and that nowadays, 'age' is not a very good indicator of children's abilities.

Table 3.1: Examples of health literacy levels according to age groups

	Prose/ document literacy skills	Verbal/expression skills (oral literacy)	Numeracy skills	Systems- navigation skills
By age 4, a child should be able to...	N/A	Communicate with an adult, caregiver or health provider about health behaviours (eg, tooth brushing, physical activity)	Recognise the relative value of health choices (eg, food portion sizes)	N/A
By age 10, a child should be able to...	Understand the content of a child-oriented handout about bike helmet use	Describe ways to prevent common childhood injuries and health problems	Identify the characteristics of healthy versus non-healthy foods on the basis of sugar or fat content in nutrition labels	Describe how the media can influence health behaviours
By age 14, a child should be able to...	Develop a written plan to attain a personal health goal that addresses personal strengths, needs and risks	Demonstrate refusal, negotiation and collaboration skills to enhance peer and family influence on health behaviours	Analyse personal susceptibility to injury, illness or death if engaging in unhealthy behaviours	Evaluate the validity of health information, products and services and access valid health information and counselling services
By age 18, a child should be able to...	Complete a document with a child's medical history and health needs and read and understand the patient's bill of rights	Identify a child or family's health behaviours and establish personal health goals for a family or child	Understand and use simple forms of medication and understand results of child health screening tests (eg, new- born screening results, growth chart)	Complete the enrolment process for child health insurance and obtain school-based health services

Source: Sanders et al (2009)

Sociological perspectives on health literacy and development

Health literacy scholars have also stressed the interrelatedness of personal skills with structural and situational factors in a given setting. Therefore, it is critical to review and discuss considerations of sociological perspectives of children's development for the health literacy of children and adolescents by focusing on

four prominent sociological approaches: sociocultural aspects of the development; socio-ecological approaches; childhood socialisation: a modern perspective; and the new sociology of childhood: the concept of intergenerational order.

Sociocultural aspects of the development

Health literacy researchers have applied Vygotsky's (1978) theory of sociocultural development to health literacy (Borzekowski, 2009) for highlighting the fundamental role of social interactions with regards to health literacy and development. Vygotsky challenged the concept of development taking place in distinct stages. Rather, he stressed the importance of social interaction, viewing children's learning as taking place in a social context. A central aspect in his approach is the assumption that one's development potential is limited to a 'zone of proximal development', the distance between the child's actual development level and the level it can potentially achieve through guidance and support. Hence, through 'scaffolding', the health literacy abilities a child can develop through temporary adult guidance or peer collaboration would exceed the health literacy a child could attain by him/herself. Vygotsky's interest in how cognitive processes are directly impacted by the specific culture in a child's surrounding results in the concept of the 'inter-subjectivity of social meanings'. It refers to the shared understanding of social meanings that occur within social groups through negotiation and communication (Smith et al, 2015). As health information is loaded with cultural meaning as well, Okan and colleagues (2016) argue for the crucial importance of children's participation within a cultural community to observe how their peers and adults seek and derive meaning from information and engage in health decision-making. Promoting children and adolescents' health literacy may benefit from the concept of 'guided participation', proposed by Paradise and Rogoff (2009), who draw on the idea of scaffolding by Vygotsky (1978). It entails that 'children actively engage in cultural practices' when 'adult models guide and regulate performance while creating temporary scaffolds that offer a form of bridge between old patterns and new' (Ansell, 2017, p 562). Hence, it allows children to receive appropriate levels of guidance as they encounter and master new activities.

Socio-ecological approaches

Wharf Higgins and colleagues (2009) and Okan and colleagues (2017) proposed a socio-ecological approach to health literacy for children and adolescents that includes internal and external factors affecting their health literacy. This socio-ecological perspective on development was originally introduced by Bronfenbrenner (1979), and represents a prominent approach for highlighting the relationships between people and their social world within health literacy research. As such, the relationship between individuals and their social world are structured in dynamic micro-, meso- and macro-layers, while taking into

account a life course perspective on the chronologic dimension. Wharf Higgins and colleagues (2009) locate: (a) internal influences on children and adolescents' health literacy at the micro context, including factors such as age, gender, beliefs, values, experiences and socioeconomic status; (b) intrapersonal influences at the meso context, bridging between the micro and the macro context, and include factors such as 'social support and influences, the quality and nature of human interactions, peers, family' (Wharf Higgins et al, 2009, p 352); and (c) external influences, namely, environmental and structural factors in society, the community and neighbourhood affecting people's health at the macro context. They concluded that any approach that aims to promote health literacy effectively needs to consider the structure of adolescent's social worlds, and the reciprocal interaction between individuals and their social environment (Wharf Higgins et al, 2009; Okan et al, 2017).

Childhood socialisation: a modern perspective

Paek and colleagues (2011) proposed a health socialisation model for health literacy that focuses on the direct, relative and mediating role of interpersonal (that is, parents, peers, schools) and medial socialisation agents for adolescent health literacy. The study revealed that interpersonal and media socialisation agents have 'similar important roles' in the development of adolescents' health literacy skills (Paek et al, 2011, p 143). They concluded that the recent developments in online social media and social networks blurred the line between 'traditional' media and interpersonal channels by 'building new types of relationships and may serve as a proxy for interpersonal health information sources' (Paek et al, 2011, p 143). Indeed, modern types of media, including prominent social media channels such as YouTube, Facebook and Twitter, apply multimodal designs, such as text-based, visual, audio and image (Tse et al, 2015). Hence, utilising multimodal social media designs in health literacy interventions and assessments seems promising and requires students to develop multimodal literacies instead of learning how to use single modes, such as print-based media, as advocated by multi-literacies researchers (Cope and Kalantzis, 2005; Kress, 2010).

By focusing on the (one-directional) impact of social and media structures on the individual's health literacy, Paek and colleagues' research (2011) is in line with traditional structure-centred approaches to socialisation. Nevertheless, modern socialisation researchers have emphasised the mutual dependency and continuous interaction between personal agency and structures (Bauer et al, 2012; Richter and Hurrelmann, 2016). Hence, socialisation is defined as the process of emergence, formation and lifelong development of human personality, entailing the reciprocal adjustment of individuals and society (Bauer et al, 2012). Richter and Hurrelmann (2016, p 270) proposed the concept of 'the individual as a productive processor of internal and external reality' that has been popular in German-speaking countries, with limited consideration in English publications. It assumes that personality development is largely constructed and self-directed

through coping with developmental tasks, and a person's constant interaction with their 'outer reality', that is, the social and material environment, and the 'inner reality', that is, their biophysical and psychological structures of human personality (Richter and Hurrelmann, 2016). This process takes place as 'the individual assimilates environmental factors and reconciles them with his/her existing views and potentials, and at the same time he/she endeavours to achieve equilibrium between environmental demands and his/her own needs, interests and abilities' (2016, p 269). Hence, the emphasis on the child as the central agent of socialisation can help to understand the active role that is attributed to the person's health literacy. As such, common health literacy concepts presume that children and adolescents possess adequate degrees of agency and capacity to act in a given environment. Nevertheless, it has not been investigated what degree of active agency children and adolescents possess with regards to health literacy at a certain age and developmental stage, and how this agency is acquired. In addition to the need of making children's active role for health literacy visible, Richter and Hurrelmann's concept (2016) emphasises the person's needs and interests, and the importance of voicing, hearing and understanding children and adolescents' own perspectives, beliefs and needs. Therefore, it is impossible to observe and understand how children and young people are socialised with regards to their health and health information by using health literacy approaches that focus on predefined skill areas and standardised testing.

New sociology of childhood: the concept of intergenerational order

Next to modern socialisation models, health literacy researchers, including Fairbrother and colleagues (2016) and Velardo and Drummond (2016), have stressed the relevance of the 'new' childhood sociology (NCS) paradigms (Bühler-Niederberger, 2010; James and Prout, 2015) for a child-centred approach to health literacy. NCS stresses children's role as active social actors and embodied beings in their social worlds. It therefore overcomes the traditional sociological perspective on childhood, rooted within the structural functionalist paradigm, where the child is regarded as future becoming, waiting to be moulded by adults (Bühler-Niederberger, 2010). Also, NCS researchers Alanen (2009) and Mayall (2009) introduced the concept of (inter-)generational order, which Okan and colleagues (2016) considered to be a helpful approach for understanding the social dimensions of health literacy. While traditional views distinguish adults and children into two categories with specific duties and rights that vary with age, development stage and context, the new concept of intergenerational order stresses the dynamics of adult-child relations as unequal power structures. As such, an adolescent's health literacy agency – referring to their actual options for engaging with health information and decision-making in a given environment – is 'bounded by and in intergenerational relations as well as in wider socioeconomic contexts and bodily, social and material resources' (Brady et al, 2015, p 174). Through an extensive ethnographic study, Lareau (2011) showed that an unequal distribution

of resources, mainly caused by inequality from social class, manifest in patterns of unequal intergenerational relations and educational approaches (see Chapter 37, this volume). These observations revealed the robustness of the social conditions that children are born into, their manifestation and reproduction in children's life trajectories through unequal power structures and parenting strategies. The latter are characterised by the degree of parental intervention in their child's institutional career, the degree of free-time activities being structured/scheduled and promoted, and the culture of verbal interaction (Lareau, 2011). In summary, viewing children as being positioned in intergenerational relations sheds light on unequal power structures and the way children and adolescents, as their own social groups, are viewed, listened to and involved in health literacy in different health-related settings, such as their home, school context or healthcare setting.

Conclusion

The purpose of this chapter was to highlight life phase particularities for health literacy by exploring children and adolescents' health literacy from a development-focused perspective. First, the chapter highlighted that health literacy is commonly considered as a combination of predefined individual attributes with a strong focus on cognitive skills. Within this approach, the focus is on 'what' – mostly cognitive – prerequisites children and adolescents need for understanding and dealing with health information and engaging in health decision-making. Indeed, specific skills are rather easy to promote through individual focused intervention, which is in line with traditional health education paradigms that focus on the provision of information. Nevertheless, children and adolescents' knowledge acquisition is embedded in contextualised narratives, for instance, conversations, personal interpretation, stories, gossip, carrying norms, morals and ideas of sociocultural practices. Learning and developing health literacy-relevant skills and knowledge can take place in highly variable and specific ways that are unique to the child and their family's specific situation and needs. Hence, health literacy must be recognised as a personal asset that can take on many forms and dimensions as one's life trajectory is shaped by one's experiences, social condition and choices, among others. Understanding health literacy as a personal asset of children and adolescents requires approaches that depart from a person-centred point of view, with the aim of observing and understanding the person's strategies for encountering and dealing with information, their personal mix of resources and belief systems. A child-centred health literacy understanding would therefore consider children and adolescents as active and reflective members of the society, acknowledging their individual perspectives, beliefs, expertise, personal resources and embodied understandings. Hence, future research should address how children and adolescents actually mobilise their resources and capabilities to practice healthy decisions in the context of their everyday life. This implies a shift away from judging/classifying individuals by their health literacy skill levels towards observing how these skills are practised and developed by the child within

a given environment. This relates to the sociocultural research paradigms on literacy, which focus on how literacy is being practised, viewing it as culturally and historically embedded and situated in everyday practice (Barton et al, 2000).

Second, health literacy researchers (for example, Nutbeam, 2017) have stressed the need to focus on health literacy not as an individual attribute, but as the product of the interaction between social conditions and individual skills related to health information-seeking and health-related decision-making. Hence, what and how well a person is able to use their skills largely depends on the situation or task at hand, and interrelations with environmental factors. Considering insights from childhood socialisation and childhood sociology enables a differentiated understanding of this individual-contextual interaction. This can be referred to as the social embeddedness of health literacy, which has remained under-explored in current conceptual and empirical research. As intergenerational relationships and an unequal distribution of power are manifest inequalities, they influence children and adolescent's health literacy development and their opportunities for participating in health-related decision-making. Future research should therefore address how the health literacy of children and adolescents is promoted or hindered through the intergenerational transfer of abilities, values, habits and norms as well as the internalisation of societal ideologies.

It is important to understand the relationship between the social and material structures of the environment and personal agency, including one's biological and psychological factors, for health literacy. Hence, it is proposed to shift the focus away from individual skills and to consider it as the interaction between (a) resources at the personal, interpersonal and societal level and (b) the situation demands in a given environmental setting. This highlights that, in addition to promoting skills, health literacy research needs to address questions of how children and adolescents encountering health information have opportunities and alternatives for their action in a given environment. If personal health literacy agency is best developed through continuous and hands-on practice in everyday health-related life situations, it is crucial that there are protected spaces and responsive structures available for children and adolescents to do so. Hence, future health literacy research, policy and practice needs to focus on making children's health literacy abilities visible, by insisting on their meaningful participation with issues that concern their health, and by voicing their perspectives with regards to health and health information.

References

- Alanen, L. (2009) 'Generational order', in J. Qvortrup, W.A. Corsaro and M.-S. Honig (eds) *The Palgrave handbook of childhood studies*, London: Palgrave Macmillan UK, 159-74.
- Ansell, N. (2017) *Children, youth and development*, New York: Routledge.
- Barton, D., Hamilton, M. and Ivanič, R. (2000) *Situated literacies. Reading and writing in context*, London: Routledge.

- Bauer, U., Bittlingmayer, U.H. and Scherr, A. (2012) *Handbuch Bildungs- und Erziehungssoziologie*, Wiesbaden: VS Verlag für Sozialwissenschaften.
- Borzekowski, D.L.G. (2009) 'Considering children and health literacy: A theoretical approach', *Pediatrics*, 124, 3, 282-8.
- Brady, G., Lowe, P. and Lauritzen, S.O. (2015) 'Connecting a sociology of childhood perspective with the study of child health, illness and wellbeing: introduction', *Sociology of Health & Illness*, 37, 2, 173-83.
- Bröder, J., Okan, O., Bauer, U., Bruland, D., Schlupp, S., Bollweg, T.M., et al (2017) 'Health literacy in childhood and youth. A systematic review of definitions and models', *BMC Public Health*, 17, 1, 361.
- Bronfenbrenner, U. (1979) 'Contexts of child rearing. Problems and prospects', *American Psychologist*, 34, 10, 844-50.
- Bühler-Niederberger, D. (2010) 'Childhood sociology – Defining the state of the art and ensuring reflection', *Current Sociology*, 58, 2, 156-64.
- Connelly, R.A. and Turner, T. (eds) (2017) *Health literacy and child health outcomes. Promoting effective health communication strategies to improve quality of care*, Cham: Springer.
- Cope, B. and Kalantzis, M. (eds) (2005) *Multiliteracies. Literacy learning and the design of social futures*, London: Routledge.
- Crondahl, K. and Eklund Karlsson, L. (2016) 'The nexus between health literacy and empowerment', *Sage Open*, 6, 2, doi:10.1177/2158244016646410.
- DeWalt, D.A. and Hink, A. (2009) 'Health literacy and child health outcomes: A systematic review of the literature', *Pediatrics*, 124, Suppl 3, S265-74.
- Edwards, M., Wood, F., Davies, M. and Edwards, A. (2015) "'Distributed health literacy". Longitudinal qualitative analysis of the roles of health literacy mediators and social networks of people living with a long-term health condition', *Health Expectations*, 18, 5, 1180-93.
- Fairbrother, H., Curtis, P. and Goyder, E. (2016) 'Making health information meaningful. Children's health literacy practices', *SSM – Population Health*, 2, 476-84.
- Forrest, C.B., Simpson, L. and Clancy, C., (1997) 'Child health services research', *JAMA: The Journal of the American Medical Association*, 277, 22, 1787.
- Freedman, D.A., Bess, K.D., Tucker, H.A., Boyd, D.L., Tuchman, A.M. and Wallston, K.A. (2009) 'Public health literacy defined', *American Journal of Preventive Medicine*, 36, 5, 446-51.
- Gossen, T. and Nürnberger, A. (2013) 'Specifics of information retrieval for young users. A survey', *Information Processing & Management*, 49, 4, 739-56.
- James, A. and Prout, A. (eds) (2015) *Constructing and reconstructing childhood. Contemporary issues in the sociological study of childhood*, London: Routledge.
- Joint Committee on National Health Education Standards (1995) *National Health Education Standards: Achieving health literacy*, New York: American Cancer Society.
- Kickbusch, I. (2008) 'Health literacy. An essential skill for the twenty-first century', *Health Education*, 108, 2, 101-4.

- Kickbusch, I., Pelikan, J.M., Apfel, F. and Tsouros, A.D. (2013) *Health literacy. The solid facts*, Geneva: World Health Organization.
- Kress, G. (2010) *Multimodality. A social semiotic approach to contemporary communication*, London: Routledge.
- Lambert, V. and Keogh, D. (2014) 'Health literacy and its importance for effective communication', *Nursing Children and Young People*, 26, 4, 32-6.
- Lareau, A. (2011) *Unequal childhoods. Class, race, and family life*, Berkeley, CA: University of California Press.
- Mackert, M., Champlin, S., Su, Z. and Guadagno, M. (2015) 'The many health literacies. Advancing research or fragmentation?', *Health Communication*, 30, 12, 1161-5.
- Malloy-Weir, L.J., Charles, C., Gafni, A. and Entwistle, V. (2016) 'A review of health literacy. Definitions, interpretations, and implications for policy initiatives', *Journal of Public Health Policy*, doi:10.1057/jphp.2016.18.
- Mayall, B. (2009) 'Generational relations at family level', in J. Qvortrup, W.A. Corsaro and M.-S. Honig (eds) *The Palgrave handbook of childhood studies*, London: Palgrave Macmillan UK, 175-87.
- Nutbeam, D. (2008) 'The evolving concept of health literacy', *Social Science & Medicine (1982)*, 67, 12, 2072-8.
- Nutbeam, D. (2017) 'Health literacy as a population strategy for health promotion', *Japanese Society of Health Education and Promotion*, 25, 3, 210-22.
- Okan, O., Bröder, J., Bauer, U. and Pinheiro, P. (2016) 'Health Literacy im Kindes- und Jugendalter – Eine explorierende Perspektive', in D. Schaeffer and J.M. Pelikan (eds) *Health Literacy: Forschungsstand und Perspektiven*, Bern: Hogrefe, 33-52.
- Okan, O., Bröder, J., Pinheiro, P. and Bauer, U. (2017) 'Gesundheitsförderung und Health Literacy', in A. Lange, C. Steiner, S. Schutter and H. Reiter (eds) *Handbuch Kindheits- und Jugendsoziologie*, Wiesbaden: Springer Fachmedien, 1-21.
- Ormshaw, M.J., Paakkari, L.T. and Kannas, L.K. (2013) 'Measuring child and adolescent health literacy. A systematic review of literature', *Health Education*, 113, 5, 433-55.
- Paakkari, L. and Paakkari, O. (2012) 'Health literacy as a learning outcome in schools', *Health Education*, 112, 2, 133-52.
- Paek, H.-J., Reber, B.H. and Lariscy, R.W. (2011) 'Roles of interpersonal and media socialization agents in adolescent self-reported health literacy: A health socialization perspective', *Health Education Research*, 26, 1, 131-49.
- Paradise, R. and Rogoff, B. (2009) 'Side by side. Learning by observing and pitching in', *Ethos*, 37, 1, 102-38.
- Richter, M. and Hurrelmann, K. (2016) 'Life course influences on health and health inequalities. A socialisation perspective', *Zeitschrift für Soziologie der Erziehung und Sozialisation*, 36, 3, 264-80.
- Sanders, L.M., Shaw, J.S., Guez, G., Baur, C. and Rudd, R. (2009) 'Health literacy and child health promotion. Implications for research, clinical care, and public policy', *Pediatrics*, 124, Suppl 3, S306-14.

- Sentell, T., Pitt, R. and Buchthal, O.V. (2017) 'Health literacy in a social context. Review of quantitative evidence', *HLRP: Health Literacy Research and Practice*, 1, 2, e41-e70.
- Smith, P.K., Cowie, H. and Blades, M. (2015) *Understanding children's development*, Hoboken, NJ: Wiley.
- Sørensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J.M., Slonska, Z. and Brand, H. (2012) 'Health literacy and public health: A systematic review and integration of definitions and models', *BMC Public Health*, 12, 80, doi:10.1186/1471-2458-12-80.
- Stones, R. (2015) 'Structure and agency', in G. Ritzer (ed) *Wiley Blackwell encyclopedia of sociology* (2nd edn), New York: Wiley, 4869-72.
- Tse, C.K., Bridges, S.M., Srinivasan, D.P. and Cheng, B.S. (2015) 'Social media in adolescent health literacy education. A pilot study', *JMIR Research Protocols*, 4, 1, e18.
- Velardo, S. and Drummond, M. (2016) 'Emphasizing the child in child health literacy research', *Journal of Child Health Care*, 21, 1, 5-13.
- Vygotsky, L. (1978) *Mind in society*, Cambridge, MA: Harvard University Press.
- Wharf Higgins, J., Begoray, D. and MacDonald, M. (2009) 'A social ecological conceptual framework for understanding adolescent health literacy in the health education classroom', *American Journal of Community Psychology*, 44, 3-4, 350-62.
- Wolf, M.S., Wilson, E.A.H., Rapp, D.N., Waite, K.R., Bocchini, M.V., Davis, T.C. and Rudd, R.E. (2009) 'Literacy and learning in health care', *Pediatrics*, 124, Suppl 3, S275-81.

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