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A comprehensive view of trust in education: Conclusions from a systematic literature review

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Trust is considered to be a crucial element of social cohesion. At the same time, as research has shown, education can be understood as an important precondition of trust. Furthermore, contextual conditions are important for the development of trust. In spite of this, the role of trust in the multi-level education system has been scarcely investigated. This paper introduces a comprehensive model of trust in the education system, based on a systematic literature review of 183 recent peer-reviewed articles following a thematic and interpretive review approach. The suggested model consists of four interconnected elements (generalised trust, educational governance, educational settings, educational attainment). By introducing a comprehensive model of trust in multi-level education systems the paper aims at opening up perspectives for future theoretically driven, interdisciplinary comparative research that may shed further light on the role of trust in education systems. The paper proceeds as follows. First, trust is discussed as a complex subject in research, policy and practice in multi-level education systems, and key research questions are derived from this. Second, the methodology of the systematic literature review is explained. Third, results from the literature review are presented, focusing on three domains of trust and their interrelations. Fourth, the comprehensive model of trust in multi-level education systems is introduced. The fifth section discusses the findings and explores how future research could advance a comprehensive understanding of trust in education.

Keywords cycles of trust, education, educational attainment, educational governance, educational settings, generalised trust, multi-level education system, systematic literature review, trust.

Introduction: Trust as an ambiguous and challenging subject in research, policy and practice

Concerns about a substantial decline in social cohesion are on the increase. Since seminal works introduced trust as a form of social capital (Coleman, 1988) and its relevance to a society's cohesion, prosperity and democratic stability (Putnam, 1995; Fukuyama, 1995), theoretical and empirical research on trust has become established. Since then trust has emerged as a worldwide research subject across disciplines

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such as psychology, sociology, political science, social sciences, economics and not least, education research. The term 'trust' generally refers to a willingness to make oneself vulnerable when relying on others (Schoorman *et al.*, 2007; Misztal, 2011; Lewis & Weigert, 2012). Studies show that trust is challenged by persistent societal issues such as social inequalities, perceived low performance or lack of responsiveness on the part of public institutions. Given a decline in trust, scholars argue that social cohesion is in peril (Dragolov *et al.*, 2017; European Commission, 2017). In response, many studies have investigated the development, preconditions and implications of trust; however, while a number of studies refer to 'education', research in this area remains underdeveloped.

So far, recent research has investigated trust on the part of teachers in principals, colleagues, students and parents, parental trust in schools and the role of trust for school improvement (cf. Forsyth, 2008). Studies have found that trust positively affects academic performance (e.g. Adams & Christenson, 1998; Goddard *et al.*, 2001; Forsyth *et al.*, 2006), 'improves much of the routine work of schools and is a key resource for reform' (Bryk & Schneider, 2003, 41). In particular, trust has been shown to promote collective decision-making and teacher buy-in, increase the likelihood that school improvement will be undertaken, diffuse across schools and result in improved educational outcomes.

While both educational governance as well as education institutions seem to depend on trust, trust also represents an important outcome of educational processes. Education has been identified as a key component for trust, for two reasons: it provides the means to transmit and share societal norms and expectations about people's actions, motives and incentives, and it 'strengthens the cognitive and analytical capacities needed to develop, maintain, and (perhaps) restore trust in both close relationships as well as in anonymous others' (Borgonovi & Burns, 2015, 10).

Research on trust is based on varying notions of the term, and focuses on different facets and levels of analysis. This includes, first, a distinction between particularised and generalised trust and, secondly, between interpersonal, interorganisational and institutional trust.

First, while *generalised trust* refers to an abstract attitude toward people in general (including strangers) as well as towards groups of people or institutions, *particularised trust* works 'at close social range'—it is directed at people or institutions that the individual knows personally and is built on interpersonal experience and interaction (Freitag & Bauer, 2016, 469; Frederiksen, 2019; Delhey & Newton, 2003, 2005; Granovetter, 1973). Generalised trust in other people is also labelled social trust (Bjørnskov, 2010). Surveys such as the World Value Survey repeatedly show that generalised trust is unevenly distributed across nations, in that a state's culture and the performance of its institutions affect the degree of trust (Delhey *et al.*, 2018).

Secondly, trust is being discussed as interpersonal, interorganisational and institutional trust. *Interpersonal trust* is developed through experiences encountered throughout life and is based on the firm expectation or belief that a trusted person will not harm or exploit an individual's vulnerability, but will instead act in anticipation of the latter's expectations (Hardin, 2002; Colquitt *et al.*, 2007; Schoorman *et al.*, 2007; Misztal, 2011). Trust is therefore a relational phenomenon and encompasses mutual appraisals of trustworthiness. These are accompanied by beliefs comprising the

relative stability and predictability of the other's actions and behaviour, resulting in trusting intentions and trust behaviour (Lewicki & Bunker, 1996; McKnight *et al.*, 1998). *Interorganisational trust* is similar to interpersonal trust, but refers to trust between groups of individuals affiliated with different organisations. It is therefore about trust across different levels of analysis (Schilke & Cook, 2013). On the one hand, interorganisational trust seems to be a de-personalised form of trust. On the other hand, organisations are represented by individuals with whom 'facework' is conducted (Kroeger, 2012). However, in contrast to interpersonal trust, where favours between two individuals are returned, interorganisational trust is about indirect reciprocity, 'whereby A helps B and then C helps A' (Vanneste, 2016, 8). Interorganisational trust is considered crucial for the success of public administration (Oomsels *et al.*, 2016). *Institutional trust*, which has also been labelled political trust (Newton, 2001; Gabriel & Zmerli, 2006), differs from interpersonal and interorganisational trust in that, instead of being placed in a person's disposition, motives and action, trust is placed in an institution's guiding idea, its code of procedure, achievements and control mechanisms. It results from the perception that these ideas and procedures are complied with (Lepsius, 2017, 81). In this sense, institutional trust is linked to an institution's transparency, fairness, effectiveness and efficiency. In another sense, institutions can affect the trust individuals place in each other by providing a shared cultural background and a reliable framework for relationships. Institutional arrangements thus 'can be seen as functional equivalents to experiential processes and the awareness of shared characteristics between two actors' (Bachmann, 2018, 220).

Recent data point to a crisis of trust, suggesting a sharp decline in public trust in government, business, the public media and NGOs, which has been linked to 'a rising sense of injustice and helplessness, a lack of hope and confidence in the present system, and a desire for radical change' (Hosking, 2019, 77). Other scholars object that low trust in government can be seen as a sign of a healthy democracy and warn against naïve trust in government (Van de Walle, 2017, 124; Oomsels & Bouckaert, 2014, 579). They also point out that, while attitudes towards the public sector or government at large are generally negative, more positive views of concrete services can often be found (Van de Walle, 2017). For example, there appears to be no downward trend in Europe in public trust toward public administration (Van de Walle *et al.*, 2008), and health and education services 'consistently attract positive views' (Van de Walle, 2017, 120). Nevertheless, institutional trust depends on perceived institutional quality (Robbins, 2012), and can thus be challenged by low institutional performance (Bacher *et al.*, 2010). However, cross-country data specifically on trust in education are still lacking.

At the same time there is a growing sense that current modes of public governance might affect trust and, vice versa, that institutional changes reflect changes in public trust. New public management in particular has been under scrutiny in this context, as it is seen to couple greater autonomy on the part of decentralised actors with distrust-based mechanisms of control (Van de Walle, 2010, 2017; Edelenbos & Eshuis, 2012; Bentzen, 2019). More recent approaches associated with the notion of new public governance (Osborne, 2006) focus on relationship-building instead, and thus appear to favour trust-based collaboration in order to develop knowledge and

strategies for handling complex problems (Daviter *et al.*, 2016; Vallentin & Thygesen, 2017).

These developments are highly relevant for education as, over recent decades, education systems in the Western welfare states have seen restructuring marked by decentralisation coupled with monitoring and accountability based on indicators and benchmarks (Lindblad *et al.*, 2002; Grek, 2008; Fazekas & Burns, 2012; Pons, 2017), but also, more recently, governance in and by networks (e.g. Ball, 2008). As a result, the issue of trust in educational governance has been raised (Cerna, 2014; Burns & Köster, 2016). This includes the question of the impact educational governance has on trust in educational settings and how, for example, collaboration and peer support can be ensured and tensions between accountability and learning can be resolved (Burns & Cerna, 2016) in order to promote the development of trust in and by education institutions (Borgonovi & Burns, 2015).

As these remarks suggest, trust is a multi-level phenomenon (Wilkes, 2014; van Hoorn, 2015; Herian & Neal, 2016; Lumineau & Schilke, 2018), and multi-level governance is a key characteristic of the education system (Wilkoszewski & Sundby, 2014). However, multi-level analyses of trust remain scarce (Fulmer & Dirks, 2018; Bentzen, 2019). This is particularly true for education. Despite recent efforts, little is still known about the exact mechanisms of trust and how interpersonal, interorganisational and, in particular, institutional trust are linked with the way education systems are governed and interactions in education institutions play out (Cerna, 2014, 37).

From this discussion, three key domains relating to different analytical levels arise.

1. Educational settings: What is the role of trust in education institutions? What trust relationships are the subject of research? What actions and arrangements affect these relationships?
2. Educational governance: What governance approaches and tools are associated with trust? What effects on trust are reported?
3. Generalised trust: What trends in generalised trust are found and how is it linked with education? What is known about generalised trust in educational systems or education institutions?

These questions are further investigated in this article by drawing on the results of a systematic literature review. In addition to results pertaining to the three key domains, the investigation focuses on how these domains are interconnected. Furthermore, two questions relating respectively to framework conditions and methodology are of interest:

1. What contextual factors that influence the creation and maintenance of trust in the three domains have been identified?
2. What approaches are used to measure and analyse trust in multi-level (education) systems?

Method: Literature review

In order to analyse recent research on the importance of trust in its broader societal context and, in particular, to assess the role of trust in multi-level education systems, a systematic literature review was conducted in the spring of 2018. It included papers

published between 2010 and the beginning of May 2018. There are two reasons for this time limitation. First, our search resulted in a very large number of articles, so limiting the time period was a way of keeping the review to a manageable scope. Secondly, in line with cumulative knowledge development in research, we assumed that more recent articles build on pre-existing ones. It therefore appeared unnecessary to extend the period covered by the review to an even earlier starting point. Instead, we aimed at an up-to-date overview that builds on—and adds to—prior research.

The search strategy was applied in line with the PRISMA statement (Moher *et al.*, 2009; see Figure 1). The selection of articles for analysis was compiled systematically from three major databases in the fields of education and social science: (i) the international database EBSCOhost (including databases such as ERIC); (ii) a national and international database accessed through the library portal PRIMO; and (iii) the national database, fis-bildung.de, covering mainly German-speaking journal articles as well as book chapters. For each of the databases we used similar search criteria. According to the search options allowed by the databases, the protocols included different combinations of the following cues or, in some cases, truncated cues: Trust or confide* AND educat*, school, child care, higher education, further education, vocational education, education* institutions, teacher*, parent*, pupil, student, governance, measur*, honesty, openness, integrity, benevolence (for details see Appendix S1).

Peer-reviewed articles in English and German were included in the literature review, providing that they were available online under the full text licence policy of the authors' university. A total of 5772 articles conforming to these requirements
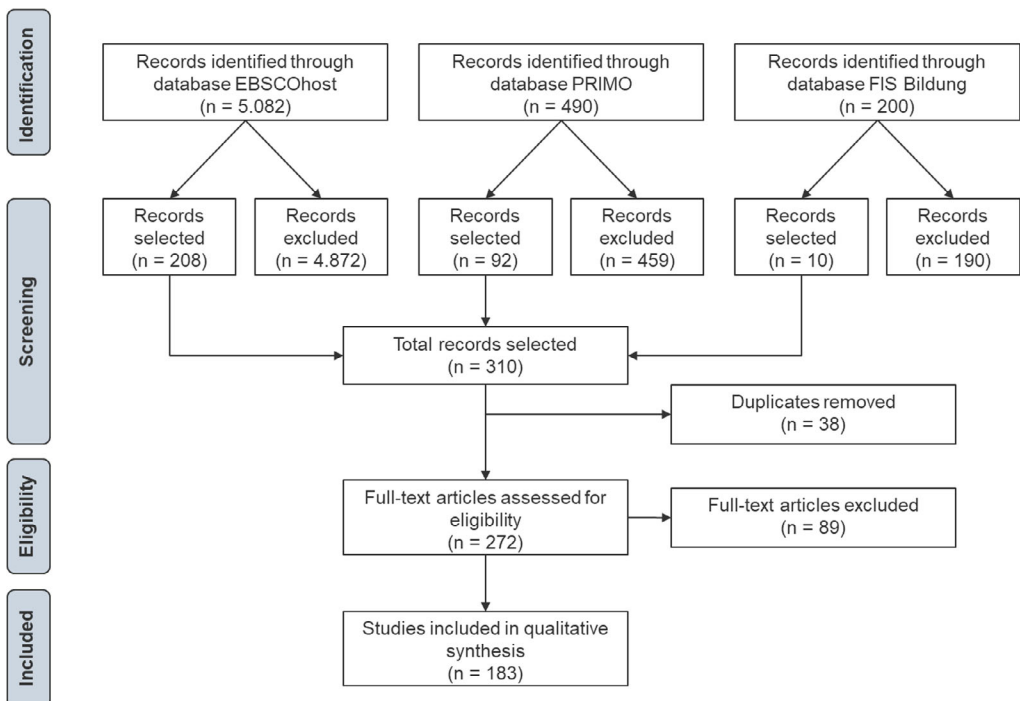

Figure 1.   Flow chart according to PRISMA statement

were *identified* in the three databases. Abstracts of each of these articles were then *screened* in order to evaluate whether they fell within the subject of our study. If no abstract was available, articles were assessed with regard to their titles and key words. If it was found that an article discussed both trust *and* education in a substantial form, it was included in the next review step. Because 5462 articles did not conform to these criteria (and thus were excluded), 310 articles remained. Of these 310 articles, 38 duplicates were ruled out. The remaining 272 full texts were then assessed for their *eligibility*. Articles using the terms 'trust' or 'confidence', without using these as specific research foci in the design or discussion of results, were then eliminated ($n = 57$). Articles were also ruled out if they only mentioned 'education' or 'school' in a reference ($n = 32$). Following these steps, the data corpus for the systematic literature review comprised a final total of 183 articles (see Appendix S2). The papers of the initial hit list and, subsequently, the 183 papers were divided among the four co-authors. The first screening of titles and abstracts and the subsequent analysis of each of the finally included 183 papers were done by pairs of the co-authors. In the case of divergent assessments of them, one of the other co-authors was consulted to reach a consensus regarding the categorisation through in-depth discussion.

Due to the search cues, unsurprisingly most of the articles included in the corpus stem from educational science. However, research from political science, public administration or social science also plays an important role (Table 1). Roughly three-quarters of the articles report findings from empirical studies, out of which 100 draw on quantitative data and 35 on qualitative data. The majority of the studies target a specific educational sector, with school by far the most common, followed by higher education. The clear majority (130) of the studies focus on a single country, with European countries (51) and North American countries (44) being most prominent. There are also a number of international studies that cover a broader range of countries. Again, these mostly focus on Europe and North America or cover several continents.

For the qualitative analysis, all 183 articles were classified using the following overarching categories (see Appendix S3):
1. Generalised trust
2. Trust in educational governance
3. Trust in educational settings
4. Relationship between generalised trust and educational governance
5. Relationship between trust in educational governance and trust in educational settings
6. Relationship between trust in educational settings and generalised trust

These categories were used for coding all 183 articles. The subsequent analysis aimed at identifying and synthesising key findings. To this end, a combination of thematic and interpretive analysis was applied. While the thematic analysis was used to extract and summarise relevant information from the literature, the interpretive analysis served to synthesise identified concepts into 'a higher-order theoretical structure' (Dixon-Woods *et al.*, 2005, 47).

To this end, both quantitative and qualitative findings as well as theoretical concepts from the studies included in the review were drawn upon to identify relevant

Table 1.   Overview of articles included in the literature review

Academic field	Educational science (107)
	Political science/public administration (42)
	Social science (26)
	Economics (12)
	Psychology (11)
	Other (12)
	Interdisciplinary (21)
Methodology	Quantitative (99)
	Qualitative (36)
	Conceptual (18)
	Secondary analysis (19)
	Mixed methods (10)
	Literature review (2)
Educational sector	School (97)
	Higher education (34)
	Early childhood education (6)
	Adult education (3)
	Non-formal education (children & youths) (6)
Geographical focus of single country studies	Africa (4) [South Africa 4]
	Asia (6) [China 2, Indonesia 1, Iran 1, Israel 1, Taiwan 1]
	Australia (8)
	Europe (51) [Belgium 8, Croatia 1, Denmark 4, Estonia 1, Finland 2, Germany 6, Greece 1, Ireland 1, Italy 2, Netherlands 6, Norway 2, Scotland 1, Slovenia 1, Sweden 6, Switzerland 2, UK 7]
	Asia & Europe (14) [Turkey 14]
	North America (44) [USA 38, Canada, 6]
	South America (3) [Brazil 3]
Geographical focus of international comparative studies	Europe (18)
	USA (6)
	Intercontinental (16)

Reading note: If the sum does not add up to 183, this is because either multiple entries were allowed in individual categories or mapping was not possible due to missing information.

aspects of trust in education as well as connections between them. Quantitative data were used as evidence regarding robustness and generalisability, while qualitative data served to gain a deeper understanding. When all the findings were collated, three interdependent domains of trust emerged. Each domain was analysed in depth and the relationships between the three domains were explored. The analysis thus resulted in a comprehensive model of trust in education.

Results

This section contains key results from the analysis. First, findings for three domains of trust—'trust in educational settings', 'educational governance and trust', and 'generalised trust'—are presented and the relationships between these domains are discussed. Among these relationships, the one between trust in educational settings and generalised trust has received most attention in the literature. Findings regarding this interconnection are therefore further differentiated, covering trust-relevant

experiences in school, public perception of education institutions, and social framework conditions interacting with education and trust.

Three domains of trust

While all three domains can be found in the recent literature, they are addressed to varying degrees. This section starts with a discussion of trust in educational settings, followed by trust in educational governance and concludes with studies on generalised trust. Table 2 highlights key findings for three domains of trust.

Trust in educational settings is covered extensively in the reviewed literature and studies address a broad variety of issues, ranging from leadership and relationships between different stakeholders via organisational culture in education institutions to both the organisational and behavioural antecedents and effects of trust. Overall, the studies confirm the growing interest in the trusting relationships among a number of actors: leaders, staff, students and parents.

The importance of leadership and organisational climate is emphasised by several studies (Hoppes & Holley, 2013; Browning, 2014; Babaoglan, 2016). Mutual trust between relevant stakeholders is seen as essential for an organisational culture characterised by distributed leadership, as it enables sharing the responsibility for and jointly achieving educational objectives (Angelle, 2010) and achieving them in innovative ways (Migliore, 2012). Trust within an educational organisation also contributes to the perceived commitment on the part of an educational organisation to following its own goals. Transparency and trust in an organisation promote perceptions of integrity and lower tensions between stakeholder groups and experienced discrimination (Pepper *et al.*, 2010).

Looking at teachers in particular, trust in colleagues contributes to organisational conditions that are conducive to cooperation, empowerment and motivation for task accomplishment (Yin *et al.*, 2013; Christophersen *et al.*, 2011). How cooperation and trust in educational settings are related is the subject of several studies. They show that cooperation is enhanced through closely networked relationships resulting from trust-based professional dialogue between different stakeholders. What is more, collaboration tends to be closer in networks of experienced teachers with more intense and frequent interactions between its members (Liou & Daly, 2014; Bilgin-Aksu *et al.*, 2015).

As could be expected, trust in teacher-student relationships also plays a prominent role in the literature. One interesting issue in this context regards the relationship of trust and perceived organisational justice. While this relationship generally appears to be positive, it is influenced by the size of an organisation. Close and direct interaction with different stakeholders facilitates greater trust on the part of students in administrators and instructors, and this is more likely in smaller organisations (Kale, 2013).

Another study underlines the role of trust for student loyalty towards higher education institutions. When students trust in personnel and management they are more likely to support the values of the organisation and be loyal to it (Carvalho & Oliveira Mota, 2010; Perin *et al.*, 2012).

Further papers demonstrate the additional positive effects of trust-based relationships in education institutions: these can help reduce behavioural incidents and even

Table 2.   Key findings for the three domains

Domain	Findings
Trust in educational settings	**School leaders/leadership** - School administrators/principals recognise the importance of trusting relationships (Kutsyuruba et al., 2016) - Important role of school leaders in fostering trusting relationships (Babaoglan, 2016; Christophersen et al., 2011; Liou & Daly, 2014; Browning, 2014; Demir, 2015; Hallam et al., 2015; Daly et al., 2015) - The trust of principals in staff is positively correlated with their self-esteem, educational level and seniority (Bilgin-Aksu et al., 2015) - Positive association between distributive leadership and trust in education institutions (Angelle, 2010; Migliore, 2012; Hoppes & Holley, 2013; Awan, 2014) - Perception of trust in education institution as the foundation of collaboration and commitment within education institution, its performance and accountability (Migliore, 2012; O'Neill, 2013) **Trust among staff** - Highest levels of trust found among colleagues (Bilgic & Gumuseli, 2012) - Positive association between trust in educational staff and perceived organisational justice (Kale, 2013), transparency and goal commitment (Parris et al., 2015), and managed information through trustworthy sources (Gibbs & Dean, 2015) - Trust among colleagues predicts teacher empowerment (Yin et al., 2013), prevents demotivation (Van Maele & Van Houtte, 2015) and promotes teacher collaboration and efficacy (Christophersen et al., 2011; Hilliard, 2012; Demir, 2015) - Trust in teachers is affected by the socioeconomic composition of the school (Addi-Raccah, 2012) **Trust in teacher–student relationships** - Trustful relationships with teachers foster the willingness of students to discuss problems, reduce bad behaviour (Pepper et al., 2010) and enhance the well-being of students (Leighton & Bustos Gómez, 2018) - The perceptions teachers have of students (compliance with norms, teachability) affect their learning processes (Thayer-Bacon, 2012) and development of trust in them (Van Maele & Van Houtte, 2011; Romero, 2015) - Different social backgrounds of teachers and students can lead to distrust/hinder development of mutual trust (Holland, 2015) - Trust relationships with students improve the well-being of teachers (Roffey, 2012) and reduce burnout (Van Maele & Van Houtte, 2015) - Trust by students in faculty and staff is positively linked with their loyalty towards higher education institutions (Carvalho & Oliveira Mota, 2010; Perin, et al., 2012; Sampaio et al., 2012; Herman, 2017) **Trust in parent–school relationships** - Trust on the part of parents is influenced by perceptions of the personal and professional attitudes of principals/teachers and perceived child-centred interactions and orientations (Shelden et al., 2010; Karakus & Savas, 2012; Lerkkanen et al., 2013; Bercnik & Devjak, 2017) - Parents who trust in teachers and principals are more likely to get involved in school (Santiago et al., 2016) - The trust of parents in pre-school teachers is negatively associated with the age of the child, and trust of teachers in parents is positively associated with the professional seniority of the teacher (Kikas et al., 2011; Kikas et al., 2011; Kikas et al., 2016) - Different social backgrounds of teachers and parents can lead to distrust/hinder development of mutual trust (Kikas et al., 2011; Janssen et al., 2012) **Trust among learners** - Few, narrow-focused studies (Smith, 2010; Myers, 2012; Swayze & Jakeman, 2014)

Table 2. (Continued)

Domain	Findings
Trust in educational governance	–Need for 'intelligent accountability' through networking and trust-building in school communities as an alternative to current systems of quality assurance; need to improve trust in teachers in assessment systems (Sahlberg, 2010; Zalec, 2013; O'Neill, 2013) –Need for educational governance to promote professional qualities and practices which strengthen trust (White, 2010; Jameson, 2012; Klenowski, 2013) –'Teacher research' as an alternative to dominant forms of governance (Beckett, 2012) –Dialogic governance as a trust-based alternative to competitiveness, performativity, control, sanctions (Vidovich & Currie, 2011; Woelert & Yates, 2014; Siddiki *et al.*, 2017)
Generalised trust	–Positive association between education and generalised trust in non-corrupt countries, but negative association in corrupt countries (Serritzlew & Svend-sen, 2011; Hakhverdian & Mayne, 2012; Lauglo, 2013; Frederiksen *et al.*, 2016; Charron & Rothstein, 2016) –Low levels of education (negative) and high levels of trust (positive) have substantive effects on support for democracy (Jamal & Nooruddin, 2010) –Political confidence in existing political (democratic or authoritarian) institutions promotes higher levels of generalised trust (Jamal & Nooruddin, 2010; Peterson *et al.*, 2012) –Trust in education is influenced by the perceived legitimacy of state institutions (Sawinski, 2014) –Most of the positive association between education and trust can be explained by intermediary mechanisms of cognitive ability and occupational prestige associated with the level of educational attainment (Hooghe *et al.*, 2012) –Education as a 'mere proxy variable for socioeconomic status and pre-adult socialization experiences' (Hooghe *et al.*, 2015)

result in better educational outcomes (Parris *et al.*, 2015; Romero, 2015; Leighton & Bustos Gómez, 2018).

Trust between teachers and students generally tends to promote well-being (Roffey, 2012). In particular, studies show that teachers who have low trust in students are more likely to suffer from burnout. However, burnout is buffered by the trust of teachers in the principal (Van Maele & Van Houtte, 2015). The results thus also demonstrate that perceptions matter—and that these are influenced by personal and professional attitudes (Bilgin-Aksu *et al.*, 2015). What is more, the gender and socio-economic composition of a school matters too. As one study finds, teachers tend to show higher trust in the teachability of their students if the proportion of girls and the socio-economic status of the students' families are high (Van Maele & Van Houtte, 2011).

Another part of the literature on trust in educational settings addresses trust in the relationship of parents and schools. Trusting relationships between home and school contribute to the participation of parents (Santiago *et al.*, 2016). Research has identified several factors that shape this relationship. First, trusting relationships are more likely to become established when parents feel the teacher is competent and acts in a child-centred way (Shelden *et al.*, 2010; Lerkkanen *et al.*, 2013). Secondly, ethnicity appears to play a role. One study highlights an asymmetry of mutual trust between immigrant parents and native (Dutch) teachers: immigrant parents have greater trust in teachers than teachers have in them (Janssen *et al.*, 2012). Finally, several studies conclude that the trust relationship between parents and teachers decreases the older the child gets (Kikas *et al.*, 2011; Kikas *et al.*, 2016).

A common theme in articles focusing on the role of *trust in educational governance* is their criticism of modes of governance (dominant in recent decades) which emphasise competitiveness, performativity, control and the possibility of sanctions (Vidovich & Currie, 2011; Siddiki *et al.*, 2017). Particularly noteworthy is the argument that recent practices of performance accountability cannot replace trust because they do not take sufficient account of situational circumstances and social habits (O'Neill, 2013, 9, 12). A number of studies supports this view and argues that new governance approaches neglect trust as a precondition for professional work in education institutions. These studies tend to take a critical look at standardised test-based performance measures, and contend that these are neither proven to contribute towards improving educational performance (Sahlberg, 2010), nor to enhancing the trust between particular stakeholder groups (Vidovich & Currie, 2011). Instead, authors recommend placing more trust in the professional judgment of teachers and promote alternative approaches, including dialogic governance or 'teacher research' to develop 'intelligent modes of accountability' (Sahlberg, 2010; Beckett, 2012; O'Neill, 2013; Zalec, 2013; Woelert & Yates, 2014).

Questions of *education and generalised trust* are addressed in a relatively low number of studies. These studies usually treat education as an independent variable, whose influence on generalised trust is analysed. In general they find there is a positive relationship between educational attainment and generalised trust. The idea that 'knowledge promotes more rationally based civic attitudes' is thus reinforced (Lauglo, 2013, 262). In this respect, however, the literature review provides some interesting differentiations, as several studies highlight the fact that the link between trust and

education depends on country-level contextual factors. A common theme in the literature is that the positive association between education and generalised trust is generally found in democratic, non-corrupt countries (Peterson *et al.*, 2012) and in countries whose citizens have strong egalitarian attitudes (Medve-Bálint & Boda, 2014). Furthermore, trust is higher in wealthier countries (Koster, 2013). The link between education and trust, however, turns negative in countries with high levels of corruption (Serritzlew & Svendsen, 2011; Lauglo, 2013; Frederiksen *et al.*, 2016), as 'people are more inclined to view the system as "rigged" as they become more educated' (Charron & Rothstein, 2016, 59). It can therefore be concluded that 'existing government institutions play an important role in promoting levels of generalized trust' (Jamal & Nooruddin, 2010, 45). This also means, however, that trust is not always meaningfully linked to support for democracy: 'While generalized trust linked to political confidence in democracies reinforces support for democracy, generalized trust linked to political confidence in authoritarian settings results in less support for democracy' (Jamal & Nooruddin, 2010, 46).

The relevance of country-level factors is further supported by a study which, as a rare exception, examines trust specifically in education institutions (Sawinski, 2014). It shows that '[t]rust on education hinges on whether the more fundamental system institutions, such as democracy, the economy and government, function well or not' (Sawinski, 2014, 37).

In another vein, the positive link between education and trust is contested on a more fundamental level: Hooghe *et al.* (2012, 604) find 'that education is strongly related to trust, but most of this association can be explained by the intermediary mechanisms of cognitive ability and the occupational prestige associated with the level of educational attainment'. Another study even asks whether education might be a 'mere proxy variable for socioeconomic status and pre-adult socialization experiences' (Hooghe *et al.*, 2015, 123).

Relationships between domains of trust

In addition to insights into the three domains of trust, the literature included in this review sheds light on the relationships between these domains, namely between generalised trust and educational governance, educational governance and trust in educational settings, and trust in educational settings and generalised trust. Table 3 shows relationships between these domains.

Among the three relationships, the *relationship between trust in educational settings and generalised trust* appears relatively well explored. Several interesting findings stand out. Most notably, research suggests that education institutions affect generalised trust mostly in indirect ways as institutions of socialisation (Flanagan & Stout, 2010; Hooghe *et al.*, 2012; Sawinski, 2014; Abdelzadeh *et al.*, 2015; Marien, 2017; Liu *et al.*, 2018). Some studies discuss approaches, such as value or character education, that aim directly at developing moral and affective foundations of trust (Akbaş, 2012; Smith, 2013). However, a number of other studies find that the trust of students is predominantly shaped by classroom climate and by experiences of distributive and interactional justice, as well as (negatively) through experiences of victimisation in school (Lundberg & Abdelzadeh, 2018). In another interesting study, Abdelzadeh

Table 3. Relationships between domains

Relationship	Findings
Trust in educational settings and generalised trust	-Schools influence attitudes towards democracy through social trust (Flanagan & Stout, 2010) -Trustful relationships with teachers positively affect the educational attitudes and development of students (Burns & Martin, 2010; Browning, 2014) -Positive association between quality of relationships between teachers and students and educational development (Corrigan et al., 2010; Brion-Meisels, 2015) -Experiences of distributive and interactional justice, classroom climate shape the political and social trust of students (Huang et al., 2011; Claes et al., 2012; Hooghe et al., 2015; Abdelzadeh et al., 2015; Hooghe et al., 2015; Marien, 2017) -Class justice climate has a moderating effect on the social trust of students (Liu et al., 2018) -Values/character education are needed to reduce cynicism, teach moral virtues and improve social trust (Akbaş, 2012; Smith, 2013) -Experiences of victimisation in school predict negative changes in social trust (Lundberg & Abdelzadeh, 2018) -Positive impact of educational attainment on generalised trust (Solyom, 2010; Schoon et al., 2010; Borgonovi, 2012) -Higher level of trust by teachers in students of more ethnically diverse classes contributes to higher learning growth (Dewulf et al., 2017) -Weak link between political knowledge taught in school and generalised trust (Weißeno & Landwehr, 2017); need to design narrowly targeted approaches in order to target stealth democratic attitudes (Barthel, 2013) -Social trust mediates between experiences of distributive and interactional justice in schools and democratic attitudes (Gunnarson & Loxbo, 2012) -Reciprocal relationship between the image which students have of public institutions and their encounters with school authorities in influencing young people's political trust (Abdelzadeh et al., 2015) -Need for schools to engage in deliberative communication in order to develop trust (Englund, 2011)
Generalised trust and educational governance	-Educational expenditure is greater in high-trust countries (Gur et al., 2015) -The greater the trust of citizens in the state, the larger the education budget (Alm et al., 2011) -Trust in public institutions in general and in education in particular are coupled in countries with centralised control over schools, but decoupled where control is located at the community level (Sawinski, 2014).

Table 3. (Continued)

Relationship	Findings
Educational governance and trust in educational settings	-Trust in education institutions is affected by the degree of centralisation of the governance system (Alm *et al.*, 2011), role of trust in the professional identity of teachers (Czerniawski, 2011)
	-Teacher education in Scotland has retained a high degree of public and political trust due to the continuing desire for partnership-working among key stakeholders (Gray & Weir, 2014)
	-Systems of monitoring and accountability disregard trust as a precondition for pedagogic professionalism (White, 2010), express a lack of trust in pedagogic professionals and institutions (Townsend, 2011; Woelert & Yates, 2014; Erlandson & Karlsson, 2018) and risk the institutionalisation of mistrust (Bormann, 2012; Bormann & John, 2014; Vidovich & Currie, 2011)
	-Trust in education institutions affects their mode of reaction to external challenges (Hoppes & Holley, 2013)
	-Different approaches to quality assurance (instrumental, cognitive, hard, soft) promote different trust-building mechanisms (Stensaker & Maassen, 2015)

et al. (2015) report that political trust develops in a reciprocal relationship between the images which students have of public institutions and their encounters with school authorities.

A different way in which trust in educational settings might affect generalised trust indirectly is through educational attainment (Burns & Martin, 2010; Corrigan *et al.*, 2010; Browning, 2014; Brion-Meisels, 2015; Dewulf *et al.*, 2017). This assumes first that trust impacts positively on educational attainment. Indeed, all of the articles in the review that address this issue find a positive relationship between trust in educational settings and educational attainment. A second necessary assumption is that educational attainment promotes generalised trust. As discussed above, despite some critical objections there is significant evidence of such a positive association, although this is clearly mediated by a country-specific context.

In contrast, the *relationship of generalised trust and educational governance* remains largely unexplored. One finding of interest, however, is the apparent association of generalised (social, political) trust and education expenditure. Public education expenditure is higher in high-trust countries and education spending is even higher 'when there is greater citizen trust in state versus local governments' (Alm *et al.*, 2011, 637). This can be explained with generalised trust on the part of citizens, as citizens with low trust tend to assume that public expenditure will be exploited by free riders whom they do not know (Gur *et al.*, 2015, 383). Support for public education expenditure can thus be considered an example of how far trust in networks of strangers is likely to expand in a society. As another study shows, the link between generalised trust and educational governance depends on the individual degree of autonomy and decentralisation. Where control of schools lies at the community level, 'trust in education becomes independent from social support for the state. However, in countries where education is considered to be a government agency, ... people tend to evaluate education together with other state institutions' (Sawinski, 2014, 19). Despite these studies, however, our review points to a clear need for further research on the link between generalised trust and educational governance.

This is true to a lesser degree of the *relationship of educational governance and trust in educational settings*. Studies in this area provide some interesting evidence on aspects of educational governance that shape trust in educational settings. For one thing, the effects of (de-)centralisation on generalised trust discussed above might also play out on the level of the individual education institution. In addition, literature addressing the link between educational governance and trust in educational settings focuses on the relations among key stakeholders in the context of accountability. As one study states, in the light of increasing accountability 'it appears the case that, in some countries, there is little trust being shown for the people involved by those who set the rules' (Townsend, 2011, 484). In a similar vein, other studies explore the notion that dominant forms of monitoring and accountability might lead to the institutionalisation of mistrust in the teaching profession and in education institutions (White, 2010; Woelert & Yates, 2014; Bormann, 2012).

Drawing on a distinction between 'external low-trust accountability, based on direct forms of line management, and internal high trust accountability, based on professional responsibility', Czerniawski (2011, 433) analyses how the identities of young teachers are shaped in different countries. His findings show how the conceptions of
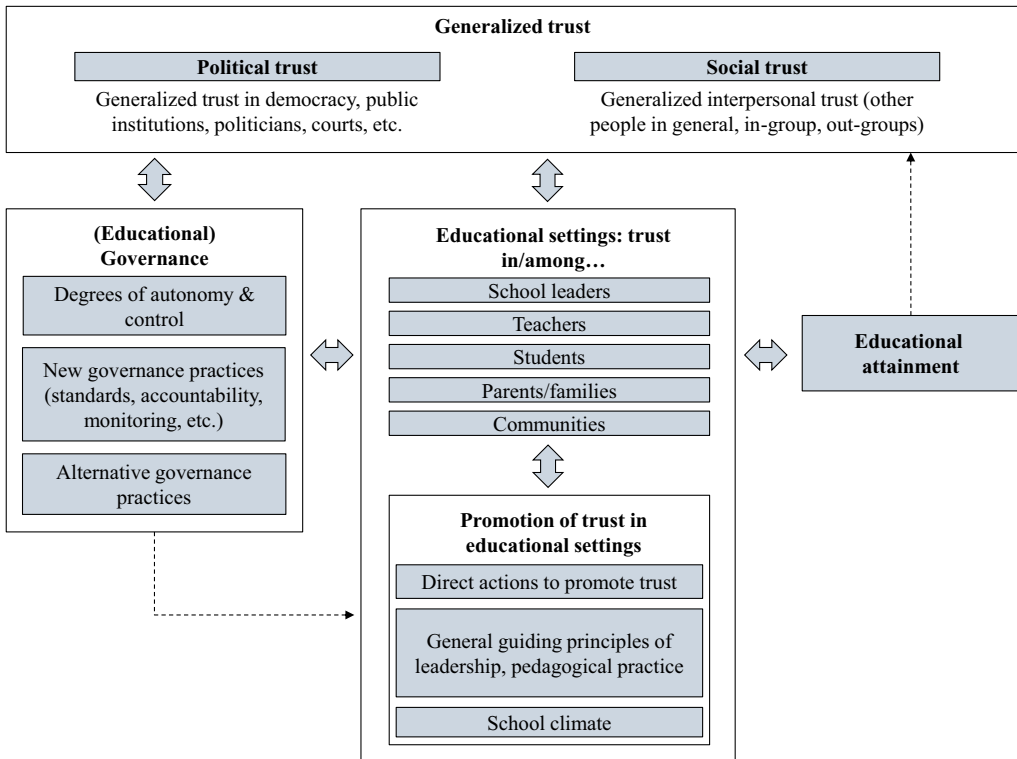
Figure 2. Comprehensive model of trust in education

professional responsibilities towards other actors, such as parents and managers, are influenced by different forms of accountability. All in all, however, more empirical work seems to be needed when it comes to understanding the interconnections of trust and accountability in education.

In the context of quality assurance in higher education Stensaker and Maassen (2015) provide a possible starting point for a more nuanced discussion by distinguishing an instrumental and a cognitive perspective on trust as well as 'hard' and 'soft' governance instruments, and identifying four main mechanisms for building trust (legal regulation; certification; reputation, community norms, structures and procedures).

While most studies focus on the impacts of governance on trust, one study takes a reverse angle in analysing how organisational trust affects the way an education institution responds to external challenges imposed by governance (Hoppes & Holley, 2013). This also appears as an interesting question for future research.

Synthesis of results: A comprehensive model of trust in education

In this section, based on the three key domains and their interconnections, a comprehensive model of trust in education is introduced and three 'cycles of trust' are

identified. This is followed by a discussion of the relevant framework conditions identified in the literature, as well as an exploration of methodological issues of trust measurement and their implications for future research.

Drawing the previously summarised findings together, a comprehensive model of trust in education emerges (Figure 2). The model comprises four key elements—generalised trust, educational governance, educational settings and educational attainment—which are linked in a complex, multi-level system.

A comprehensive model of trust in education

The element of *educational attainment* was added to the three domains because it was found to play an important intermediate role between trust in educational settings and generalised trust. While this is questioned by scholars who see educational attainment as a proxy for success in society, it is included as a separate element to emphasise the need for further research.

Following the theoretical groundwork discussed in Section 1, the element of *generalised trust* includes political (institutional) as well as social (interpersonal) trust. Despite some exceptions, this distinction appears widely accepted in trust research (Freitag & Bauer, 2016). There are, however, diverging views on the relationship between social and political trust. Cultural theorists argue that political trust is rooted in social capital, that is, based on interpersonal trust, and thus lies outside the political domain. By contrast, institutional theorists see trust as a consequence of the citizen's perception of institutional performance (Kong, 2014, 386). Newton, taking the latter position, nonetheless sees a link between social and political trust on the aggregate level: social trust can help to make good (high-trust) government possible, and good government can help to sustain social conditions conducive to social trust (Newton, 2001, 211). Clearly, this association requires further research, especially in the context of educational systems: none of the studies in the literature review provided cross-national insights on public trust in education systems, much less on how this trust is related to generalised interpersonal trust.

The element of *educational governance* includes characteristics of the governance system, with the literature pointing to the degree of centralisation, autonomy and control respectively as being of particular interest. Furthermore, specific governance approaches and instruments seem relevant. These reflect general trends in public governance and include both NPM-inspired practices such as standards, accountability and monitoring, as well as alternative collaboration-based approaches. In this context, one important lesson from the literature review is the need to develop more nuanced typologies of governance instruments, and to connect these with different forms of trust-building such as calculus-based, benevolence-based, identification-based or institution-based trust (cf. Weinhardt, 2015; Kasten, 2018; Bachmann, 2018). What is more, as calls for 'intelligent accountability' (O'Neill, 2013) imply, the effect which a type of governance instrument has on trust is not predetermined, but depends on the way it is implemented in different institutional arrangements and by different actor constellations.

As shown, of the four elements of the model, trust in *educational settings* has received the most attention in recent research. A key conclusion that can be drawn
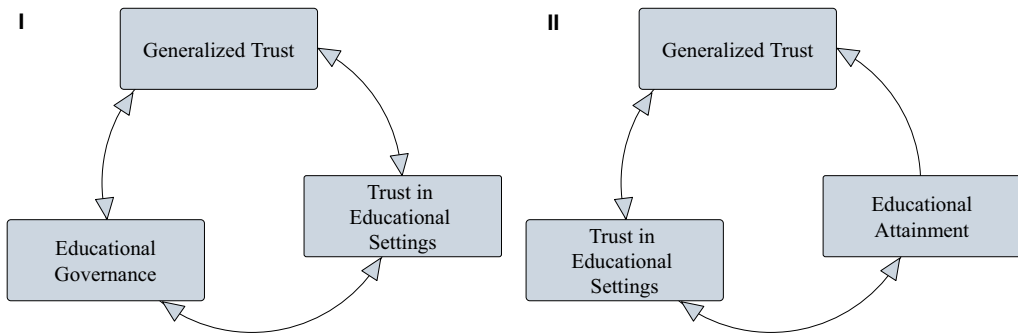
Figure 3.　Cycles of trust

from this literature is that the institutional climate and everyday experiences seem to matter more than initiatives to promote trust directly. This finding raises issues of leadership and guiding principles, as illustrated by some of the literature, but it also draws attention to the importance of 'face work' (Giddens, 1990, 80), that is, the fact that educational practitioners act as representatives of abstract social systems and that their trusting relationships therefore have implications for trust in institutions per se (Bachmann, 2018, 220).

Cycles of trust

In addition to the individual connections between the various elements and domains, the findings suggest different cycles of trust (see Figure 3).

Cycle I links generalised trust, educational governance and trust in educational settings, thus illuminating the institutional and organisational side of trust. It highlights the relations between the interdependent educational stakeholders, which can take more or less trust-based forms depending on their generalised trust. It also involves the way in which institutional arrangements shape the granting of trust and the role of 'face work' by educational practitioners.

None of the studies included in the literature review encompass all three interconnected domains. However, findings suggest that socialisation in education institutions can play an important role in the development of generalised trust (Hooghe *et al.*, 2015). If schools are seen as public authorities, teachers can be regarded as their legal representatives who, in their treatment of students in educational settings, enact a style of educational governance. Young people who perceive their treatment as fair might transfer their resulting trust to societal institutions in general (Lundberg & Abdelzadeh, 2018; Abdelzadeh *et al.*, 2015).

Recent literature stresses that educational governance instruments differ in terms of the faith policy makers and administrators have in educational settings and their professionals. Based on the reviewed literature, it can also be assumed that the choice of governance instruments is affected by generalised (social and political) trust. In the long run, trust developed in educational settings might therefore also contribute to trust in educational governance and to the use of high-trust governance instruments.

All in all, Cycle I raises questions about how ideas of trust-based interactions in educational settings may impact upon specific forms of educational governance.

Cycle II emphasises the importance of individual educational attainment and its interplay with trust in educational settings and with generalised trust. It builds on the notion that generalised trust and trust experienced in educational settings can reinforce each other, which is supported by recent research. In contrast, there seems to be a unilateral link between educational attainment and generalised trust: educational attainment affects generalised trust (Borgonovi, 2012; Hooghe *et al.*, 2012), but there is no substantial empirical evidence of a converse effect by generalised trust on educational attainment. However, such a link could be derived from social capital theory. According to Putnam (1995) trust, reciprocity and commonly shared norms contribute to the development of social capital.

Some of the research makes a general reference to this line of reasoning and underlines the role of trust and networks for the development of social capital and mutual benefit (Breuskin, 2012; Christoforou, 2011). A few papers explicitly mention education as a form of an individual's capital. For example, trust as a component of social capital is shown to affect aspirations for higher education which, in turn, can contribute to further development of the social capital stock (Fuller, 2014). Trust also supports educational achievement by generally promoting well-being (Portela, Neira, del Mar Salinas-Jimenez, 2013), which is pivotal in maintaining task accomplishment in education institutions (Roffey, 2012; Van Maele & Van Houtte, 2015; Leighton & Bustos Gómez, 2018).

A *third cycle* connects the elements of Cycles I and II, as forms and instruments of educational governance affect inter- and intra-organisational trust relationships in educational settings and these, in turn, affect generalised trust both directly and mediated via educational attainment. Thus, a self-reinforcing mechanism is in place in the sense that people who have positive experiences in education institutions—for example, of fair treatment and performance equity—tend to develop a high level of generalised trust which, in the long term, may have an impact on educational governance—reflected, for example, in the acceptance of trust-based control instruments or generalised trust in education institutions.

Several reasons support the view that the interconnections displayed in the three cycles are relevant across different contexts and countries. First, the literature included in the systematic review addresses trust in different types of education institutions, with a focus on formal education but also including non-formal settings. Secondly, studies from different disciplines and using different methodological approaches were included, thus capturing different perspectives on and insights into trust in education. Thirdly, the studies drawn upon to develop the comprehensive model of trust in education and the three cycles of trust cover different geographical regions, each with specific political cultures of educational governance and education practices. Thus, although the majority of studies focus on Western welfare states, different social framework conditions beyond these were taken into account, to a certain degree at least.

Table 4 summarises the most important context factors identified in the review.

The table underlines the need to be aware of different epistemologies in trust research (Isaeva *et al.*, 2015). It also draws attention to a range of features that need

Table 4. Levels of trust analysis and contextual aspects

Level	Aspects of trust	Contextual aspects
Society, political system	Generalised trust • in people (social trust) • in institutions (public institutional/political trust)	Characteristics of the political system • type of welfare regime • degree of centralisation Aspects of political culture • collectivist/individualist orientation • degree of corruption Government performance, performance of institutions
Sectoral (educational) governance	Interorganisational trust • vertical (e.g. administration—education institutions) • horizontal (between governance actors)	Degree of autonomy Policy instruments Actor constellations (e.g. responsibilities, jurisdictions, distribution of power, history of collaboration and conflict) Overarching (trends in) governance approaches (e.g. NPM, NPG)
Educational settings	Interorganisational trust (horizontal) • between education institutions of same type (e.g. schools) • between education institutions of different types (e.g. formal and non-formal learning) • between education institutions and other actors (e.g. social service, enterprises, civil society) Interpersonal trust • between leaders and teachers • among teachers • among teachers and learners • among learners • between leaders and family • between teachers and family	Organisational climate Leadership style Institutional arrangements Actions to promote trust directly Guiding principles for interaction and pedagogical practice

Table 4.   (Continued)

Level	Aspects of trust	Contextual aspects
Educational attainment	Effects of trust on educational attainment • Educational participation • Learning • Formal qualification/ educational level Effects of educational attainment on generalised trust • social trust • public institutional/political trust	Socio-economic status Ethnic background Gender Age

to be taken into account in order to understand the development and level of trust within and across the different domains. Basically, it highlights the importance of context-sensitivity in the interpretation of findings on the interconnection of education and trust.

Discussion

The aim of this systematic literature review was to introduce a comprehensive model of trust in the multi-level educational system which interconnects various domains of trust. It is based on a systematic literature review of 183 recent research articles on trust in different educational settings. In our theory-generating synthesis, we identified three different cycles of trust that are, to variable extents, addressed by recent research.

Summary

In general, trust has been recognised as important for social cohesion. It has also been found to be a pivotal factor in educational settings affecting educational attainment. Furthermore, education and social cohesion are interconnected. Most of the current research included in this study considers trust within educational settings, or focuses on conditions that affect the interconnection of education and trust. Although micro-macro approaches in trust research are called for (Hakhverdian & Mayne, 2012; Wilkes, 2014), studies that take interconnections of education, trust and societal conditions—including (educational) governance—into account, are scarce. This paper has contributed to closing this research gap by synthesizing findings from a systematic literature review in a comprehensive model of trust, including its various mutual interconnections, in a multi-level educational system.

Apart from the level of education and socio-economic status, articles included in this systematic literature review revealed many additional factors that affect an individual's trust. These include (but are not limited to) employment, gender, age, migration background, self-esteem or political party preference. With regard to organisational factors that influence trust, findings show the perception of performance, fairness, and transparency to be relevant. Finally, the system level and political factors such as polity size, perceived responsiveness, level of corruption, degree of centralisation, wealth, social inequality, egalitarian attitudes and the type of political system were all shown to have an effect on generalised trust.

However, recent research on trust in educational settings is insufficient in terms of considering the manifold relevance of trust for the individual, for and in educational organisations and, last but by no means least, for educational governance. What is more, a view on trust that reflects its variety would require a more comprehensive, theoretically and empirically driven approach.

Limitations

With regard to our systematic literature review, the following limitations need to be considered. First, we have included research published in German and English.

Secondly, we had to restrict the time period of our search query. As a result, our corpus of studies only consists of articles published between 2010 and the spring of 2018. However, it seems reasonable to assume that earlier developments are reflected in the current studies. Thirdly, for this literature review we chose to examine empirical studies in view of their research questions, methods and results. However, we did not evaluate every single study for research quality, which means that although our literature review is able to foster a more comprehensive view, the reported individual findings must be interpreted with caution.

Another limitation of the study lies in its focus on research studying both trust and education. Consequently we disregarded studies that did not deal *explicitly* with both aspects but that may nonetheless involve aspects of interest, such as studies on governance, political systems or (educational) leadership or, with regard to trust in educational settings, the quality of peer interactions that might affect educational attainment. Including such research in the analysis could provide valuable insights into the complex relationships between the domains of trust.

With the traditional approach of integrative literature reviews in mind, two more limitations to our study might also be pointed out: first, the fact that we did not specify the concepts of 'trust' and 'education' in advance of our review and, secondly, that we did not focus on only one type of evidence on the grounds of its methodology. However, taking different understandings of trust seriously (Isaeva *et al.*, 2015), and following the approach of interpretive synthesis, we chose to include different kinds of evidence in order to aggregate theory (Dixon-Woods *et al.*, 2005).

Contribution to research

Although most researchers agree that trust forms the foundation for educational processes and contributes to educational attainment, this research field has not yet been described in depth. The present study has addressed this issue and introduced a systematic model across different domains of trust on an empirical basis. The model illustrates and points out (possible) links and interdependencies between the different aspects. Some of these have been raised explicitly in existing studies, while others have been implied and still others represent 'blind spots' on the part of previous research.

The most significant finding to emerge from this literature review is the establishment of a broader and more systematic perspective on the phenomenon of trust in education. This adds a new dimension to the research on educational governance which, so far, has rarely paid attention to this issue. With its systematic approach our literature review also broadens the trust research perspective, which traditionally tends to undertake detailed and isolated examinations of the phenomenon.

Outlook for prospective research

Research included in the literature review focuses mostly on specific domains or relationships between specific domains. By contrast, research on more complex interconnections across several domains is as yet limited and would need innovative research designs. Thus, a key conclusion for future research is the need to adopt a more

comprehensive, systematic perspective on education and trust across different levels of the educational system. Undoubtedly trust has an influence on many educational settings at different levels, and results from the interplay of a variety of factors. Given the nature of trust as a cross-level phenomenon, Herian and Neal (2016) point out that the study of trust must be designed accordingly. Different relationships of trust must be taken into account, namely interpersonal trust as well as the trust that individuals have in an institution, or the trust that is built up between different organisations. This does not only touch upon the question of what research methods should be used to investigate relationships of trust and their development, it also seems insufficient to analyse these settings and factors one at a time. While variable-oriented research may add cumulatively to our understanding of trust, findings from such research need to be understood in a wider context. In this review we have proposed a model that can serve as a framework for future research.

The framework is based on the notion of interplay between institutions and trust on the system-level (principal institutions), educational governance and trust in educational settings. As a result, whole countries become the primary unit of analysis. A promising way forward, in our view, lies in systematic, multi-level, individual country studies and international comparisons. This is certainly no small task, and details of such an endeavour remain to be worked out.

Open questions include, but are not limited to, the following:

Country selection: Future research should aim at identifying and comparing patterns across countries. Ideally, such research would focus on a purposeful selection of countries that includes similar and contrasting cases. What would be adequate selection criteria? The literature review raises several possibilities, such as collective versus individualistic political cultures or the degree of centralisation of the political and/or education system. Rather than focusing on a single system trait, however, we maintain that a complex typology should serve as the basis for selection, as represented, for example, by Esping-Andersen's (1990) typology of welfare states, the governance models described by Pierre and Peters (2005), macro-societal correlates of social cohesion as discussed by Delhey *et al.* (2018) or dimensions of national cultures as introduced by Hofstede (2011).

Conceptual elements: In order to make cross-country comparisons, the elements to be included in the analysis need to be established. While this should be an open process that continues across the lifespan of a research project (Sobe, 2018), the research framework provided by our model can serve as a starting point. However, it seems necessary to move beyond literature focusing on the nexus of education and trust, and to shed more light on the different parts of the framework. For example, it could be helpful to take a closer look at public policy instruments, how they have been shaped in recent times and how they, in turn, shape the relationship between the government and the governed (Salamon, 2002; Lascoumes & Le Galès, 2007). Thus one of the issues that would have to be addressed is new ways of knowledge production and its use in education (Ozga, 2008; Ball, 2010).

Methodology and database: The synthesis of findings displayed in the sections above has shown that much of the research is based on quantitative research designs, and in particular either addresses the preconditions for the development of generalised trust or refers to trust within educational settings. However, the quantitative approach is

not without criticism. In particular, scholars have questioned the *dimensions and validity of items* frequently used in large surveys, and asked whether respondents from different cultural or national backgrounds understand and interpret these in a comparable manner. Unlike Freitag and Bauer (2013) who statistically confirm the cross-cultural significance of trust and its dimensions (Freitag & Bauer, 2013, 40; alike: André, 2014; Schneider, 2017), Sturgis *et al.* (2010), based on a 'think aloud' methodology, found that trust levels vary according to the individual interpretation of trust items. This is particularly relevant to the design and interpretation of international comparative studies (Torpe & Lolle, 2011).

In addition, recent literature calls for research designs capable of capturing the development of trust across multiple levels (Wilkes, 2014; Herian & Neal, 2016; Lumineau & Schilke, 2018). The comparative research across domains of trust envisioned here calls for a mixed-methods approach. This raises the question of how to bridge the quantitative/qualitative divide (Abadie *et al.*, 2015) and how to combine large-N and small-N research (Lieberman, 2005).

Furthermore, as all the elements in our framework model can be seen as outcomes of other elements, the question of causal inference must be addressed. Due to the complex interplay between system-level factors, governance and educational trust, experimental approaches seem inappropriate. Process tracing (Beach & Pedersen, 2013) may well pose a viable alternative. For example, as a first step the analysis could seek to establish associations between different elements, for example by drawing on existing correlational analyses. Next the analysis would attempt to infer that the correlation is actually a causal relationship. The analysis would initially focus on individual countries in order to generate country-specific explanations, but could later move on to international comparisons.

Conclusions

A key finding of our study is that recent research on trust in the educational system is fragmented, with the focus mainly on conditions and implications of interpersonal trust or the political conditions and implications for trust. But trust is of pivotal importance for overall social cohesion, and evidence suggests that education plays an important role in societal trust. The impacts of the coronavirus pandemic on education have recently reinforced this view, but have also called the functioning of education institutions into question.

All in all, therefore, a more in-depth investigation of the role of trust in education appears necessary. Such research could draw on the comprehensive cycle of trust introduced in this article. A systematic view of trust in education requires the triangulation of different theoretical approaches and understandings of trust, as well as specific empirical applications. While the latter implies disengagement from classic, causal analysis and a shift to a theory-driven, process-tracing approach which uses case studies as subjects of comparative analyses, the former necessitates an open-minded attitude towards the way trust is approached in order to grasp its complexity.

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Author contribution statement

S.N. and I.B. designed the literature review; S.P. conducted the collection of data; S.N., S.P., A.K., and I.B. contributed to the analysis; S.N. and I.B. wrote the manuscript with input of all authors; S.N., A.K. and I.B. designed the model; S.N. designed the figures and tables; I.B. designed the supplements. All authors discussed the results and commented on the manuscript.

Data availability statement

The data sets used and/or analysed during the current study are available from the corresponding author on reasonable request.

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SUPPORTING INFORMATION

Additional Supporting Information may be found online in the supporting information tab for this article:

Appendix S1. Search protocols for the different databases.
Appendix S2. List of literature included in the review.
Appendix S3. Relevance of the texts for the elements of the model and their interconnections.