



The Role of School in Adolescents' Identity Development. A Literature Review

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Abstract

Schools can play an important role in adolescents' identity development. To date, research on the role of school in adolescents' identity development is scattered across research fields that employ different theoretical perspectives on identity. The aim of this literature review was to integrate the findings on the role of school in adolescents' identity development from different research fields and to provide schools and teachers with insights into how adolescents' identity development can be supported. Using constant comparative analysis, 111 studies were analyzed. We included articles on personal and social identity and on school-related identity dimensions. Three groups of studies emerged. First, studies on how schools and teachers *unintentionally* impact adolescents' identity showed that, at school, messages may unintentionally be communicated to adolescents concerning who they should or can be through differentiation and selection, teaching strategies, teacher expectations, and peer norms. Second, studies on how schools and teachers can *intentionally* support adolescents' identity development showed that different types of explorative learning experiences can be organized to support adolescents' identity development: experiences aimed at exploring new identity positions (in-breadth exploration), further specifying already existing self-understandings (in-depth exploration), and reflecting on self-understandings (reflective exploration). The third group suggests that explorative learning experiences must be meaningful and situated in a

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supportive classroom climate in order to foster adolescents' identity development. Together, the existing studies suggest that schools and teachers are often unaware of the many different ways in which they may significantly impact adolescents' identity development.

Keywords Identity development · Adolescents · Education · Systematic literature review

Introduction

Identity development is an important task in adolescence. Adolescents are supposed to be concerned with developing educational and professional goals while shaping an image of who they are and want to be. Previous research indicates that a relatively clear and stable identity makes people more resilient, reflective, and autonomous in the pursuit of important life decisions, while promoting a sense of competence (e.g., Flum and Kaplan 2006; Kroger et al. 2010). However, it has been argued that developing a clear and stable identity has become increasingly challenging due to processes of individualization, emancipation, and migration (e.g., Beck et al. 1994). School—a place where adolescents spend a lot of time—is an important context where adolescents' identity development can be supported: Here, teachers can help adolescents to explore the identity implications of the new ideas, activities, or possibilities they are introduced to at school (e.g., Coll and Falsafi 2010; Flum and Kaplan 2006; Kaplan and Flum 2009; Kaplan and Flum 2012; Rich and Schachter 2012; Schachter and Galili-Schachter 2012; Schachter and Rich 2011; Silseth and Arnseth 2011).

To date, the emerging body of literature on the role of school in adolescents' identity development is scattered across different academic disciplines (e.g., Schachter and Rich 2011). Together, these studies cover a wide range of theoretical perspectives on identity development, without there being a common research base. Scholars use the same terminology—identity—while often relating to merely a small share of the studies performed on the role of school in adolescents' identity development and while being seemingly unaware of work performed by scholars who adopt different theoretical perspectives and, consequently, research designs.

The scattered research field may cause research gaps and ways in which research from different theoretical perspectives can complement each other to be overlooked. Additionally, it remains difficult for scholars, schools, and teachers to determine what insights the literature on the role of school in adolescents' identity development does and does not yet provide, and, therefore, how the development of adolescents' identities can best be supported in school.

In this paper, we review the literature on the role of school in adolescents' identity development to answer the following research question: “What insights does the existing literature provide us into the role of educational processes in adolescents' personal, social, and school- and learning-related identity development?.” We found literature on the influence of school experiences on adolescents' racial, cultural, ethnic, and gender identity too, and we acknowledge that education plays an important role in the development of these identity dimensions. However, the articles on the role of school in the development of these identity dimensions form an extensive research field that would require a separate literature review (see, e.g., a review study on the racial identity development of African-American adolescents by DeCuir-Gunby 2009). Therefore, we decided to delimit our research scope to general identity dimensions (i.e., personal and social identity) and more circumscribed identity dimensions that are education-related.

The aim of our literature review is threefold: to present an overview of what insights articles, in which different perspectives on identity development are employed, provide us into the role of school in adolescents' identity development; to derive practical implications from the literature to help schools and teachers support adolescents' identity development; and to identify research gaps while outlining future research directions to further examine the role of school in adolescents' identity development.

Method

Literature Search

To find relevant studies, we consulted five databases that cover the disciplines of psychology, education, and the social sciences: PsycINFO, Education Resources Information Center (ERIC), Web of Science, Sociological Abstracts, and Google Scholar. Two search strings were developed, of which the first regarded the population of adolescent students and consisted of the following keywords: *secondary education, middle schools, middle school education, middle school students, junior high schools, junior high school students, high schools, high school students, and high school education*. This search string was combined with a search string on identity development that consisted of the keywords *identity formation, identity development, identity construction, identity work, and identity process*. A more elaborate description of our search strategy can be found in Appendix A (Online Supplement). The search was performed on 22 October 2015 and focused on peer-reviewed articles in English that were published between 2005 and 2015. In total, the search resulted in 3599 unique articles.

Selection and Analysis of the Literature

The abstracts of all 3599 articles were read by the first author to establish which studies possibly met our inclusion criteria. An overview of our inclusion criteria is presented in Table 1. First, only articles using the term *identity* were included in the review study. Hence, to delimit the scope of the review study, we did not select literature on identity-related concepts

Table 1 Inclusion criteria

Criteria	To be included
Notion of identity development	Studies that explicitly employed the terminology of identity development.
Identity dimensions	We adhere to the authors' definition of identity, though Research regarding notions of personal or social identity development which concern the question "Who am I as a person (in relation to others)?" OR Research regarding the development of identity dimensions that are related to education or learning (e.g., literacy identity, mathematics identity, learner identity)
Role of education	Studies that concern the role of education processes <i>in</i> adolescents' identity development
Research group	Studies on students in secondary education
Quality of publication	Peer-reviewed publications
Language of publications	Publications in English
Publication date	Publications published between 1 January 2005 and 22 October 2015
Accessibility	Studies that were accessible via the online or offline libraries of our universities

such as self-concept (Marsh 1990) or possible selves (Oyserman et al. 2006). Second, we included articles investigating adolescents' personal and social identity development. When it comes to more circumscribed identity dimensions, we included articles on the development of adolescents' school- and learning-related identity dimensions (e.g., mathematics identity, learner identity). Third, we only selected literature that focused on the influence of educational processes on adolescents' identity development. Studies in which school was merely described as a setting in which adolescents spend their time were excluded from the selection. Fourth, in this stage of the process of literature selection, we did not include studies that were published more than 10 years before we performed our search. We chose to do so because of practical reasons, namely, the limits of the project budget and the time constraints that we were faced with. Finally, we included both empirical and theoretical studies, because we were not exclusively interested in empirical findings regarding the role of school in adolescents' identity development but also in how these findings could be interpreted.

Based on our inclusion criteria, 176 articles were included in the review. Subsequently, the authors, in pairs, read the abstracts of these articles for two purposes: first, to get an initial overview of the studies in our selection; second, to develop a preliminary coding scheme to analyze the full texts of the articles. In this stage, while being concerned presenting an overview of what insights articles that are grounded in different perspectives on identity development provide us on the role of school in adolescents' identity development, we generated codes for the explicitly mentioned theoretical perspectives on identity development. We also wanted to know what research methods and designs were used by scholars who adopt different theoretical perspectives on identity development. Therefore, we coded the abstracts, when possible, for methodological information (i.e., research design, sample, type of data collection). We wanted to be responsive to the various identity dimensions that the different studies focused on, which is why we coded for these (e.g., literacy identity, science identity) too. Finally, to disentangle what insights the existing literature provides into the role of school in adolescents' identity development, the abstracts were coded for the educational processes that were explicitly addressed in the literature. We stayed very close to the text in coding the abstracts. For example, codes such as "Role of teacher: negative non-verbal approach of some students," "Role of teacher: paid attention to low performing students," and "Role of teacher: explicitly communicating positive expectations towards students" were assigned to the abstracts.

In this process, we discovered that the articles could be allocated to at least one of the following three categories: (1) studies that provide insights into the educational processes through which schools, teachers, and peers may *unintentionally* (and often negatively) shape adolescents' identity development; (2) studies that provide insights into the educational processes through which schools and teachers may *intentionally* foster adolescents' identity development; and (3) studies that provide insights into the *preconditions* to intentionally support adolescents' identity development in school. Aiming to contribute to the integration of research findings across different research fields, we categorized the studies first by the type of educational process that they identified and second by the theoretical perspective they were grounded in.

Next, the first author read and summarized the full texts. After reading the first author's reports on the literature, the full research team decided to exclude another 71 articles from the selection that, based on the full text, proved not to meet the inclusion criteria. To prevent ourselves from overlooking key publications in the research field under study that may have been published either before or after 2005, we performed citation tracking, as recommended by Greenhalgh and Peacock (2005). We kept a list of relevant articles that were referred to three

times or more as concerning the role of school in adolescents' identity development in the articles we had already selected, and we added them to the selection when they met our inclusion criteria ($n = 6$), apart from the criterion concerning the publication date. As a consequence, our final selection of literature comprised 111 articles.

Once we had further narrowed down our selection of literature to 111 articles, the first author coded the full papers with the previously developed coding scheme. Constant comparative analysis was used (e.g., Glaser and Strauss 1967) to compare and group the various codes on the explicitly mentioned educational processes in order to distill overarching processes from the data. To provide an illustration, the earlier mentioned codes "Role of teacher: negative non-verbal approach of some students," "Role of teacher: paid attention to low performing students," and "Role of teacher: explicitly communicating positive expectations towards students" were combined in the overarching process "Teacher expectations." In a similar way, we distinguished other *unintentional* educational processes (selection practices and differentiation, teaching strategies, and peer norms), *intentional* processes (in-breadth exploration, in-depth exploration, and reflective exploration), and *preconditions* (meaningful learning experiences and a supportive classroom climate). Whereas some articles focused on one of these educational processes, others concerned the role of various processes (also see Table 2). The second and third author critically monitored the entire coding process and, in case of doubt, additional research team discussions were held. In Table 3 through Table 11 in Appendix B (Online Supplement), we alphabetically ordered the studies for the various educational processes and preconditions that we found and present brief summaries of each of the articles.

Table 2 Overview of the number of studies per theoretical perspective on identity development for each of the identified processes and preconditions

Educational processes and preconditions	Sociocultural perspective	Psychosocial perspective	Social psychological perspective	Sociological perspective	Combined perspectives	No explicitly mentioned perspective
Unintentional processes						
Selection practices and differentiation	2	3	2	2	1	2
Teaching strategies	9	1	–	–	3	4
Teacher expectations	11	–	–	1	1	3
Peer norms	7	1	1	–	–	2
Intentional processes						
In-breadth exploration	6	–	–	–	–	4
In-depth exploration	9	–	–	–	3	4
Reflective exploration	4	1	–	–	3	4
Preconditions						
Meaningful learning	10	1	–	–	5	2
Supportive classroom climate	6	3	1	1	3	5

Results

Characteristics of the Literature

The 111 articles were found across a wide variety of scientific journals ($n = 80$). In total, 19 of the 111 articles were theoretical in nature. Among the empirical research papers, six articles were quantitative in nature and another set of seven articles employed a mixed-methods design. Seventy-eight articles exclusively used qualitative research methods and generally presented small case studies. Of these qualitative studies, 60 reported longitudinal research. Different identity dimensions were studied in the literature, ranging from science identities and art identities to learner identities on a more general level and personal identity on an even more abstract level. Personal and social identities were investigated in respectively 21 and 11 articles. Of the more circumscribed school-related identity dimensions, studies on adolescents' Science, Technology, Engineering, and Mathematics identity (STEM; $n = 35$), learner identity ($n = 18$), and student identity ($n = 14$) were most prevalent. The studies were conducted in a variety of settings—e.g., out-of-school science programs, literacy classes, schools' hallways—and among a variety of samples such as bilingual high school students, honors students in a science class, or girls attending a middle school in a rural area. The majority of studies ($n = 62$) was based on data that were collected in the USA.

Theoretical Perspectives on Identity Development

Different theoretical perspectives on identity development can be found in the studies included in our literature review. Half of the articles in our literature selection understood identity from sociocultural perspectives ($n = 55$). The remaining articles were based on psychosocial perspectives ($n = 8$), social psychological perspectives ($n = 4$), sociological perspectives ($n = 4$), a combination thereof ($n = 14$), or they did not explicitly mention a particular conceptualization of identity development ($n = 26$). In this section of the present paper, each of the identified perspectives will be discussed based on publications that were referred to in our selection of literature as core theoretical publications that form the foundations of the various theoretical perspectives on identity development. In the next sections, the findings that we distilled from the literature on the various educational processes through which adolescents' identity development may be influenced will be discussed in relation to the theoretical perspectives on identity development that are employed in the selected articles (also see Table 2). In doing so, articles in which perspectives on identity development are (often somewhat eclectically) combined and articles in which no particular theoretical perspective on identity development is mentioned will be discussed together with the studies from the perspective they most strongly appear to relate to in terms of research focus and employed research methods. More information on the combined perspectives can be found in Table 3 through Table 11 in Appendix B (Online Supplement).

Sociocultural Perspectives Researchers who employ a sociocultural perspective generally understand identity as a multidimensional phenomenon rather than a single entity (e.g., Gee 2001; Holland et al. 1998; Holland and Lave 2001): People are thought to develop a range of self-understandings, for example as a science student (a science identity), a reader (literacy identity), or a music student (a musical identity). On a more general level, people are thought to integrate these self-understandings into a learner identity, a student identity

(the person one is in school, not exclusively concerning who one is as a learner), and a social identity (one's societal position in terms of superiority and inferiority). On an even more abstract level, people are thought to integrate these identity dimensions, together with self-understandings that are neither school- nor learning-related, in their personal identity. Scholars adopting sociocultural perspectives understand a person's identity to develop through this person's participation in various sociocultural contexts, such as home, school, and work (e.g., Holland et al. 1998; Holland and Lave 2001; Wenger 1998). These contexts are *social* in the sense that in every context, through interaction and negotiation, different identity positions—or social roles—are made available, such as those of the creative, ambitious, and/or cooperative person. These contexts are *cultural* in the sense that they are characterized by specific sets of tools, norms, and values that guide people's actions, goals, and ideas about appropriate ways to reach those goals (e.g., Holland et al. 1998). Researchers who understand identity development from a sociocultural perspective are concerned with how identity positions, and the way these positions are evaluated (for example, girls may not be stimulated to identify with technology; Volman and Ten Dam 2007), inform adolescents' identities. They are also interested in how the tools, norms, and values that are explicitly or implicitly communicated through educational activities and learning contents impact adolescents' identities. Based on adolescents' previous encounters with tools, norms, values, and identity positions, adolescents are thought to develop their self-understandings. Moreover, these self-understandings are understood to inform adolescents' current decisions and future goals. In other words, adolescents' self-understandings connect their past, present, and future (e.g., Holland et al. 1998; Wenger 1998). Some sociocultural scholars examine identities as narratives. The primary interest of these scholars is in the *self-understandings* people share, for example in interviews, and how these self-understandings are informed by people's experiences with tools, norms, values, and identity positions in the school context (e.g., Solomon 2007). Other sociocultural researchers use classroom observations to observe both the actions and activities of teachers and peers (that reflect certain norms, values, and available identity positions, while providing insights into often used tools) and adolescents' demonstrated *engagement* in school and school subjects, as an indication of their identities (e.g., Bartlett 2007). A third group of sociocultural scholars in our literature selection combines the former two strategies and studies identity development through the interplay between adolescents' engagement in school and their shared self-understandings by employing various ethnographic research methods (e.g., Anderson 2007).

Psychosocial Perspectives Psychosocial perspectives are often adopted by scholars whose main focus is on the internal, psychological processes of a person's identity development (e.g., Negru-Subtirica et al. 2015; Solomontos-Kountouri and Hurry 2008). In the studies in our literature selection that adopted psychosocial perspectives, two key stages in the identity development of adolescents are distinguished: exploration and commitment. The process of exploration concerns the inquiry into new possible interests as well as the trying out of new activities in order to learn what values one considers as important and what goals one deems worth pursuing. In the process of commitment, adolescents are thought to make durable life decisions, for example when it comes to their education, profession, and worldview (Erikson 1968; Marcia 1993). With regard to the role of school in adolescents' identity development, some researchers who employ a psychosocial perspective are concerned with educational activities and strategies that either foster or hinder exploration and commitment processes.

These studies stress the importance of opportunities to try out and reflect upon various activities (e.g., Charland 2010). Other studies in our literature selection that employ a psychosocial perspective focus on the effect of educational characteristics (such as education level) on the identity stage in which adolescents find themselves (e.g., Negru-Subtirica et al. 2015; Sica 2009; Solomontos-Kountouri and Hurry 2008). Scholars who adopt a psychosocial perspective are generally concerned with the process of identity development, rather than with the content of specific identity dimensions. Consequently, large-scale, quantitative survey studies that examine the developmental stage of adolescents' identity are more common in this research field than in the sociocultural one.

Social Psychological Perspectives Scholars adopting a social psychological perspective understand a person's identity to consist of a social and a personal part (Tajfel 1978; Tajfel and Turner 1986). Of these two parts, the former concerns one's, "knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel 1978, p. 63). The extent to which one identifies with the social groups one knows to be a member of and the extent to which one has strong emotions regarding these group memberships (in terms of these social groups being inferior, equal, or superior to other social groups) is what constructs the personal part of one's identity at a given point in time (Tajfel 1978; Tajfel and Turner 1986).

When it comes to the role of school in adolescents' identity development, some scholars employing a social psychological perspective are interested in the attributes adolescents themselves ascribe to other groups of adolescents that, for example, differ from them when it comes to the high school track they are in (e.g., a prevocational track, a pre-academic track; Jonsson and Beach 2013). Others are more concerned with adolescents' perceptions of the attributes other people (e.g., society in general) assign to adolescents in different high school tracks (e.g., Knigge and Hannover 2011) or in schools with a low- or high-status reputation (Marcouyeux and Fleury-Bahi 2011). Generally, survey studies that may comprise both open and closed questions are performed by scholars who adopt a social psychological perspective (e.g., Knigge and Hannover 2011; Marcouyeux and Fleury-Bahi 2011).

Sociological Perspectives Like scholars adopting a social psychological perspective, researchers who employ a sociological perspective are concerned with adolescents' group membership, the evaluation thereof, and the extent to which adolescents identify with these groups. Additionally, though, scholars who ground their work in sociological perspectives are interested in how group membership serves to *include* some people, while *excluding* others as a means to acquire status. The primary focus of scholars employing sociological perspectives is on how people move in societal power structures, create groups, and try to use their own individual agency to represent themselves in ways that they desire (Côté 2002; Foucault 1980).

Some scholars who employ a sociological perspective examine how people in adolescents' school contexts (e.g., peers and teachers) can help them to use their agency to position themselves in desired ways (e.g., Robb et al. 2007). Others focus on how educational policies or discourses create new membership groups of achievers and failures (e.g., Anagnostopoulos 2006). Because scholars who adopt a sociological perspective are concerned with *how* structures are reproduced and with *how* people (can) use their agency, they generally employ qualitative research methods ranging from classroom observations and student reports, to focus groups and interviews.

The Hidden Curriculum: How Schools and Teachers May Unintentionally Affect Adolescents' Identity Development

In our analysis of the literature, we identified 52 articles that focused on educational processes through which schools and teachers may *unintentionally* (and often negatively) play a role in adolescents' identity development. These studies presented in these articles are often performed in formal education settings ($n = 48$) and concern educational processes that are part of what could be called the "hidden curriculum" (Jackson 1968): through these processes, messages can be implicitly communicated to adolescents about who they are, should, and can be.

Selection Practices and Differentiation Twelve exclusively empirical studies in our literature selection addressed the role selection practices at the school level or differentiation processes at the classroom level may unintentionally play in the development of adolescents' identities. As can be derived from Table 3 in Appendix B (Online Supplement), seven of these articles concern qualitative research, four quantitative research, and one mixed-methods research.

The ethnographic studies by Solomon (2007) and Yi (2013) that are grounded in a sociocultural perspective together with ethnographic studies by Hoffman (2012) and Barnett (2006) that respectively combine perspectives on identity development or do not explicitly mention one focus on the link between ability grouping and adolescents' identities. These articles are concerned with adolescents' sense of proficiency in and belonging to mathematics classes (Solomon 2007), English as a Second Language classes (ESL; Yi 2013), wind band classes (Hoffman 2012), and cheerleading and dancing teams (Barnett 2006). In these school-related contexts, the contents of, respectively, the mathematics, student, musical, and social, personal and school identities that adolescents develop were examined. Together, the studies indicate that adolescents who are allocated to a high status group—and hence to whom certain positively evaluated identity positions were available—understand themselves as having something to contribute to their class, whereas this is not the case for other adolescents. The studies also found that adolescents in high status groups seemed to be rather engaged in class (which was considered to be an indication of their domain-specific identities), whereas the opposite applied to adolescents who were denied access to high status groups. Next, three survey studies in which psychosocial perspectives are employed, focused on the degree of identity exploration that adolescents in various school tracks engage in (Negru-Subtirica et al. 2015; Sica 2009; Solomontos-Kountouri and Hurry 2008). Two of these studies found that adolescents in prevocational tracks were less likely to explore what vocational goals they deem worth pursuing later on in life than adolescents in pre-academic tracks (Negru-Subtirica et al. 2015; Solomontos-Kountouri and Hurry 2008). However, Sica (2009) found that the former group of adolescents did engage in identity exploration but often out of a fear for who they might become (out of a fear to sense emptiness, or to forget about their dreams), whereas the latter group of adolescents tend to engage in identity exploration based on a positive perception of their future (Sica 2009).

Negru-Subtirica et al. (2015) and Solomontos-Kountouri and Hurry (2008) argued that their findings could possibly be explained by the negative image of the prevocational track, combined with these students' limited career prospects and the associated stigma of poverty. Yet, a survey study by Pfeiffer et al. (2012)—in which no particular perspective on identity development was mentioned—suggests that adolescents who are in shorter-lasting tracks (such as the prevocational one) are more likely to be further in the development of their identities, because they will leave school earlier and are therefore closer to the developmental deadline of choosing a career path than students in longer-lasting tracks (like the pre-academic track).

Hence, evidence on the role of tracking in adolescents' process of identity development remains inconclusive.

Articles in which a social psychological perspective is adopted, either examined the attributes adolescents themselves ascribed to students in prevocational and pre-academic high school tracks (Jonsson and Beach 2013), or the attributes others ascribe to these students according to adolescents' own perceptions (Knigge and Hannover 2011). For example, Jonsson and Beach (2013) asked 224 students from the pre-academic track in Sweden to list ten descriptive attributes of a typical student in the pre-academic track and ten descriptive attributes of a typical student in the prevocational track. These adolescents described the former type of student as *hard working, with good career prospects, compliant and mainstream*, whereas they assigned the latter type of student the following labels: *daring, challenging toward authority, rebellious, lazy, substance abusing, and with defective language*. Similar patterns were found by Knigge and Hannover's (2011) German mixed-methods study when adolescents were asked what people in general think about students in the prevocational and students in the pre-academic track.

Two ethnographic articles in which a sociological perspective is employed were concerned with differentiation at the classroom level and found that adolescents' experiences with school success or failure—being promoted or demoted (Čeplak 2012) or taking an obligatory homework class (Anagnostopoulos 2006)—created socially constructed yet real status groups of students. However, neither these studies nor the studies that are grounded in a social psychological perspective (Jonsson and Beach 2013; Knigge and Hannover 2011) provide insights into whether and how selection or differentiation processes are internalized by adolescents in their identities.

Teaching Strategies We identified 16 studies regarding the role teaching strategies may unintentionally play in the development of adolescents' identities. As is shown in Table 4 in Appendix B (Online Supplement), these articles comprise one theoretical paper and 15 ethnographic studies. The nine studies in which sociocultural perspectives on identity development are used are concerned with (1) how teaching strategies inform opportunities to engage in the classroom and with the subject matter as constrained by tools, norms, and values and (2) how teaching strategies make certain identity positions available in the classroom. An illustrative example is provided by Horn (2008). In her longitudinal ethnographic research, Horn compared the teaching strategies in mathematics classes of two different high schools. In one of the schools, students were provided with cumulative sets of short mathematical problems to work on individually. In the other school, students and teachers collaboratively developed activities that supported multiple-ability group work. At the first school, the teaching strategy unintentionally communicated that “Math is something that you only have to remember everything that you’ve ever learned before. And you get to a point somewhere along the line where your brain says, ‘My brain is full.’ And you can’t go on” (student quote in Horn 2008, p. 220). Hence, the first school appeared to invite adolescents to understand themselves as “just not a mathematics person” as soon as the cumulative learning content got too advanced. However, based on classroom observations and interviews with students and teachers, Horn found that the other school’s teaching strategy stressed instead that everyone is able to improve their mathematics skills for as long as they want to. This school did so by providing students who have different abilities and talents with opportunities to collaboratively work on mathematical issues.

Some of the studies grounded in sociocultural perspectives (Clark et al. 2013; Evnitskaya and Morton 2011; Horn 2008), as well as some of the ethnographic (Smagorinsky et al. 2005)

and theoretical (Wallace 2012) studies that do not explicitly mention a theoretical perspective on identity development, were merely concerned with available opportunities to engage and present identity positions in the classroom setting. Other sociocultural studies (Anderson 2007; Aschbacher et al. 2010; Calabrese Barton et al. 2013; Carlone 2004; Lambert 2015; Rubin 2007), together with ethnographic studies that are grounded in combined perspectives on identity development (Brickhouse et al. 2000; Cobb et al. 2009; Cone et al. 2014), or do not mention a particular perspective on identity development (DeGennaro and Brown 2009; Hamilton 2002), focused in addition on how adolescents developed their identities in relation to these opportunities and positions: Various researchers examined how opportunities to engage shaped students' demonstrated (Anderson 2007; Brickhouse et al. 2000; Calabrese Barton et al. 2013; Rubin 2007) and narrated (Aschbacher et al. 2010; Brickhouse et al. 2000; Carlone 2004; DeGennaro and Brown 2009; Lambert 2015; Rubin 2007) engagement in the classroom as an indication of their identities. Others focused on how teaching strategies shaped adolescents' self-understandings as capable participants in classroom contexts (Anderson 2007; Calabrese Barton et al. 2013; Cobb et al. 2009; Cone et al. 2014; Hamilton 2002; Lambert 2015), or on adolescents' envisioned future in a particular field (Calabrese Barton et al. 2013) as an indication of their identities. Irrespective of how the various identity dimensions were operationalized, the abovementioned studies found that teaching strategies did unintentionally inform adolescents' identity development. This finding is also supported by Charland's (2010) ethnographic study in which a psychosocial perspective on identity development is employed. Based on interviews with 58 African-American students in art classes, this study suggests that teaching strategies in art classes that do not leave space for self-expression may discourage students to understand themselves as artists, to engage in visual art, and to further explore their artist identities.

Teacher Expectations In our literature selection, we found 17 articles concerning the role teacher expectations may (often) unintentionally play in the development of adolescents' identities. As can be derived from Table 5 in Appendix B (Online Supplement), these articles comprise one theoretical paper and 16 ethnographic studies.

Four of the articles that adopt a sociocultural perspective on identity development demonstrated, based on classroom observations and teacher interviews, that teachers may have rather persistent expectations of adolescents through which certain identity positions are made available or unavailable (Berg 2010; Rubin 2007; Vetter 2010; Wortham 2006). Berg (2010) for example found in her longitudinal ethnographic research on a foster child that this adolescent was repetitively approached by his teachers and social workers based on others' reports and the previous experiences they had with him as an outsider and a difficult student. Yet, these teachers and social workers failed to notice the student's changed behavior. Consequently, the range of available identity positions in relation to which the adolescent could develop his identity was limited. Together, these four studies indicate that static teacher expectations limit adolescents' ways to position themselves, which may sometimes benefit (Vetter 2010) but other times harm adolescents' engagement in school practices (Berg 2010; Rubin 2007; Wortham 2006). It should be noted, though, that none of these studies provide insights into how teacher expectations shape adolescents' narrated self-understandings.

Five other studies in which a sociocultural perspective on identity development is employed (Aschbacher et al. 2010; Edwards-Groves and Murray 2008; Johnson et al. 2011; Landers 2013; Olitsky et al. 2010) relied fully on student interviews or questionnaires regarding perceived teacher expectations. Consequently, in these studies, it cannot be examined whether

perceived teacher expectations correspond to teachers' actual expectations of their students. Yet, whether the perceived teacher expectations that are reported represent truth, imagination, or both, the studies do suggest that adolescents' self-understandings are informed by their perceptions of their teachers' expectations, as is indicated by an adolescent's remark in Edwards-Groves and Murray's study (Edwards-Groves and Murray 2008), "And anyway I think I am dumb and stupid 'coz I am not as good as the others, they [the teachers] think that too" (quote in Edwards-Groves and Murray 2008, p. 168).

Next, three more studies that are grounded in sociocultural perspectives on identity development (Bartlett 2007; Fields and Enyedy 2013; Heyd-Metzuyanım 2013) combined (participant) classroom observations with student and sometimes teacher interviews or focus groups. These studies provide additional and stronger evidence for the role teacher expectations may play in adolescents' identity development. The study by Heyd-Metzuyanım (2013) showed how teacher expectations could inform adolescents' identity development even when these expectations are communicated implicitly. Heyd-Metzuyanım (2013) described how she, as a teacher, implicitly and unintentionally expressed her low expectations of one of her students' mathematical abilities through her continuous disengagement from this student's mathematical thinking problems; Heyd-Metzuyanım no longer expected the student to make any additional progress in mathematics, and the identity position of becoming a better mathematician was no longer made available to the student. The observation and student interview data suggest that the student, in relation to how she was positioned by her teacher through the teacher's expectations, changed the story of herself as a mathematics learner from someone who is willing and able to learn mathematics at the beginning of the school year to someone who could no longer grow as a mathematics student later on in the school year. The student's mathematics identity appeared to be informed by the communicated teacher expectations and the student's perceptions thereof.

Next, Bottrell's (2007) study in which a sociological perspective is adopted was concerned with the social groups that teachers, according to students, implicitly create and the teacher expectations these groups are accompanied with. Bottrell reported, based on youth center observations and students' interviews, stories of adolescents who shared that they experienced their teachers in formal education to distinguish, without formal differentiation, between more and less successful students. In case the adolescents thought they belonged, in the eyes of their teachers, to the latter group, they sometimes felt that their teachers did not have hopes for them at all, based on which they appeared to develop the idea that they were not worth bothering about. Again, though, this study does not provide insights into the extent to which the perceived teacher expectations correspond to teachers' actual expectations of their students.

Then, two ethnographic studies in which no particular perspective on identity development is explicitly mentioned (Seaton 2007; Smith 2008) were not so much concerned with how (perceived) teacher expectations are reflected in adolescents' self-understandings but with whether adolescents do or do not identify with the expectations that teachers explicitly express. In these two studies, teacher expectations appeared to be understood as making available fixed identity positions that adolescents may or may not endorse. For example, Smith (2008) studied a ninth-grade honors class at an American high school through classroom observations and student interviews and focus groups. Smith observed that teachers explicitly stressed that honors students were expected to work hard, to do more, and be more integer than other students. Yet, whereas Smith found that some students embraced this identity position, others commented, despite their being enrolled in the honors class, "I'm plenty smart, but I just don't

think I'm the type of person that the teachers think belongs in an honors class" (quote in Smith 2008, p. 499). This finding indicates that teachers' expectations have to be desirable and meaningful from students' perspectives in order to become part of their identities.

Finally, what struck us in the analysis of the studies that focused on the role of teacher expectations in adolescents' identity development was that various times it was argued (Steele 1997) and found, by ethnographic studies that differed in the perspectives on identity development they employed, that teachers (perceivably) have certain expectations of groups of adolescents that are distinguished by their ethnic background (Aschbacher et al. 2010; Bartlett 2007; Edwards-Groves and Murray 2008; Johnson et al. 2011; Wortham 2006), perceived academic abilities (Landers 2013; Jethwani 2015), and/or gender (Jethwani 2015; Johnson et al. 2011). Although it was recognized in these studies that adolescents' identity development is, at least to a certain extent, an individual process, scholars found inequalities in (perceived) teacher expectations across different groups of students. This indicates that individual adolescents who share a certain characteristic may be confronted with norms and identity positions in relation to which they can and cannot develop their identities that are different from the norms and identity positions of adolescents who do not share that characteristic. For example, Aschbacher et al. (2010) found that, in the student interviews and questionnaires they collected among a group of 33 diverse high school students, the adolescents spoke frankly about ethnic/racial biases they faced in science classes at school. Aschbacher et al. (2010) reported that various Asian-American students shared that they thought their science teachers and administrators were supportive and had high expectations of them, whereas several African-American and Latino students talked about how they felt their teachers had lower expectations of them than of others. Together with other studies (Bartlett 2007; Edwards-Groves and Murray 2008; Jethwani 2015; Johnson et al. 2011; Landers 2013; Steele 1997; Wortham 2006), this suggests that inequalities may occur in (perceived) teacher expectations across different groups of students. Certain groups of students may experience to have different opportunities in relation to which they can develop their identities (as indicated by their engagement and/or self-understandings), which may either foster or hinder their identity development.

Peer Norms In our analysis of the literature, we identified 11 exclusively empirical studies regarding the role peer norms may unintentionally play in the development of adolescents' identities. As is shown in Table 6 in Appendix B (Online Supplement), nine of these articles concern qualitative research, one presents a quantitative study, and one regards a mixed-methods study. Three studies in which sociocultural perspectives are adopted and that are based on various ethnographic research methods (Fields and Enyedy 2013; Ideland and Malmberg 2012; Volman and Ten Dam 2007) were concerned with and found that peers may deny each other access to certain identity positions through peer norms. An example is provided by Fields and Enyedy (2013) who studied a programming class in a middle school by means of observations, student interviews, questionnaires, and focus groups. Fields and Enyedy (2013) found that, even though the teacher of the programming class made the identity position of an attentive expert available to one of the students in this class, his peers refused to regard this student as such. This student's classmates appeared to do so, because the student who was now trying to help out his classmates was better and longer known by them for his sarcasm, which they generally experienced as mean. The prevalent norm among the adolescent's peers seemed to be that they could not start their relationship with this student from a clean slate, just because they found themselves in a new class. Fields and Enyedy (2013) analysis suggests that this made it difficult for the student to enact the identity position that he was offered by his teacher and that he tried to pursue. However, no insights

are provided into whether and how this informed the student's self-understanding. Four other ethnographic studies in which sociocultural perspectives are employed (Hall 2010; Hall et al. 2010; Johnson et al. 2011; Vetter et al. 2011) focused on how peers can make certain identity positions less appealing by stigmatizing these identity positions. These studies indicate that when adolescents actually do identify themselves with identity positions that are stigmatized by their peers, they may hide that they do in order to safeguard their reputation. For example, Hall (2010) found—based on observations as well as teacher questionnaires and interviews—that the teachers of a middle school offered their students three different reader identity positions: one of a poor reader (someone who is unable to understand most of what he or she reads, and who does not participate in class nor asks for help), one of becoming a good reader (a poor reader who engages in the practices of a good reader, for example by participating actively and by asking questions), and one of a good reader (someone who understands most of what he or she reads, who participates in class and who asks questions). However, students shared in their questionnaires and interviews that they felt it was not really possible to engage in class as someone who is becoming a good reader. Students mentioned to fear the social consequences of engaging in class as such, because classmates jointly reinforced the norm that it is embarrassing to have reading difficulties. Therefore, as some of the students reported, they would rather not get actively involved in class so they could hide their reading difficulties. This appeared to jeopardize these students' opportunities to further develop their self-understandings as readers in a constructive way.

The finding that adolescents may feel restricted in taking up certain identity positions because they are stigmatized by peers is also supported by Charland's (2010) ethnographic study—in which psychosocial perspective is adopted—as well as by two—respectively, ethnographic (Fletcher et al. 2009) and mixed-methods (Wilmot 2014)—studies in which no particular perspective on identity development was explicitly mentioned. Interestingly, these three studies were concerned with the role of peer norms in adolescents' identity development in the same way as some of the studies that are grounded in a sociocultural perspective, despite their different understandings of how identities develop. In addition to the other studies, though, Charland's (2010) interview and focus group study indicates that adolescents' exploration of, in this case, artist identities, may be hindered when peers reinforce the norm among themselves that visual arts is for “nerds” or “sissy's” (Charland 2010, p. 122).

Next, a quantitative study by Marcouyeux and Fleury-Bahi (2011), in which a social psychological perspective is employed, looked at the relation between a school's perceived reputation and adolescents' identities. To examine this, Marcouyeux and Fleury-Bahi (2011) asked 542 high school students in France, through surveys, about how they think adolescents from other schools would perceive the respondent's school in terms of prestige and the quality of education. They also asked the respondents about their identification with school and learning. In this study, a positive relationship was found between the school's image as perceivably perceived by peers and students' identification with school and learning. This finding indicates that being a member of a group that is perceivably high in status according to peers may positively shape adolescents' identities.

Organizing Explorative Learning Experiences: How Schools and Teachers May Intentionally Affect Adolescents' Identity Development

In our analysis of the literature, we identified 37 articles that regarded educational processes through which schools and teachers may *intentionally* foster adolescents' identity

development. Most of the studies concerning the intentional fostering of adolescents' identity development are conducted in after-school clubs, extracurricular classes provided at school, or at summer camps ($n = 21$). Even though learning experiences are often not referred to as such in the literature, our analysis of the existing body of research caused us to distinguish between in-breadth, in-depth, and reflective explorative learning experiences that all, in their own way, support adolescents in exploring who they are and want to be.

In-Breadth Exploration In our literature selection, we found ten articles regarding learning experiences that allow adolescents to get introduced to learning contents, learning activities, and identity positions they were thus far unfamiliar with. We refer to such experiences as in-breadth explorative learning experiences. As can be derived from Table 7 in Appendix B (Online Supplement), the articles that will be discussed in this section comprise three theoretical papers and seven ethnographic studies. All the articles concerning in-breadth explorative learning experiences argued (Brickhouse 2001; Squire 2006; Stokes and Wyn 2007) or demonstrated (Barrett and Baker 2012; Bruin and Ohna 2013; Carlone et al. 2015; Johnson et al. 2011; Jones and Deutsch 2013; Stapleton 2015; Van Sluys 2010), irrespective of their perspective on identity development (also see Table 2), that providing adolescents with such experiences may invite them to adopt new interests, to identify undiscovered talents, and to try out new identity positions. For example, Stapleton (2015), who adopts a sociocultural perspective, examined a 4-week summer program in which a group of 30 American adolescents was taken to a site that was deeply affected by climate change. The adolescents visited schools, social outreach organizations, local population members, attended lectures about climate change, and examined climate change's impact on mangrove forests. The interviews with 13 of the participating adolescents indicated that being introduced to people and sites that are affected by climate change stimulated many to become more engaged with environmental issues. The learning experiences the summer program introduced these adolescents to also appeared to inform their self-understandings. As one participant mentioned, “[The summer camp] has changed my identity, it's changed my daily outlook, what I buy, how much I buy when I go to stores, it's changed my transportation, my daily living habits” (quote in Stapleton 2015, p. 105). Hence, the summer program appeared to have introduced the adolescents to a new topic that intrigued them, while providing them with insights into how they themselves could tackle environmental issues.

This body of literature suggests that introducing adolescents to unfamiliar learning contents, learning activities, and identity positions through *on-site* and *hands-on* activities especially helps adolescents to imagine the identity implications thereof. Supposedly, on-site and hands-on activities introduce adolescents to learning contents, learning activities, and identity positions in authentic, real-life ways, which can help them decide to what extent they identify with these contents, activities, and positions.

Finally, one theoretical (Brickhouse 2001) and various empirical studies in this group of literature (Barrett and Baker 2012; Bruin and Ohna 2013; Johnson et al. 2011; Van Sluys 2010) that differ in the perspectives on identity development they adopt examined the role in-breadth explorative learning experiences may play in the identity development of adolescents with a higher risk of marginalization. Bruin and Ohna (2013), who do not explicitly mention a particular perspective on identity development, studied alternative educational courses involving increased workplace-practice for adolescents who could not flourish in Norwegian's regular and more theoretically oriented education. In these alternative courses, the aim was to introduce students to the requirements and expectations that they will face in their future vocations. Based on interviews

with eight students, Bruin and Ohna (2013) concluded that, whereas these students previously felt that school was not for them, the alternative courses allowed them “to discover and nourish hidden talents and interests and new sides of themselves and experiencing how feeling able builds self-confidence and supports learning” (quote in Bruin and Ohna 2013, p. 1100). Their analysis, as well as the other articles, suggests that, by acquiring new skills through hands-on activities, these students were able to adjust their self-understandings in a positive way in relation to previously unavailable identity positions.

In-Depth Exploration We identified a group of 16 articles regarding learning experiences that may support adolescents in further exploring and specifying their already present self-understandings. We refer to such experiences as in-depth explorative learning experiences. As is shown in Table 8 in Appendix B (Online Supplement), among these articles, two theoretical, three mixed-methods, and 11 ethnographic studies can be found. One theoretical (Luehmann 2009) and six ethnographic (Furman and Calabrese Barton 2006; Polman 2010; Polman and Hope 2014; Polman and Miller 2010; Rahm et al. 2014; Rudd 2012) studies that are grounded in sociocultural perspectives on identity development provide insights into how learning experiences that acknowledge that adolescents may already have a sense of who they are (for example a “history person”) could facilitate the exploration of contents, activities, and positions that are closely related to adolescents’ already present self-understandings (for example, the identity position of an art historian or of a history teacher). Five ethnographic articles—of which one employs a sociocultural perspective on identity development (Liu and Hannafin 2010), whereas the others do not explicitly mention a particular perspective on identity development (Adams et al. 2014; Jones and Deutsch 2013; Kendrick et al. 2013; Russ et al. 2015)—additionally focused on whether in-depth explorations actually inform adolescents’ narrated self-understandings and found that they did. For example, Adams et al. (2014) examined a multi-year out-of-school STEM program for adolescents with a general interest in STEM. This program offered hands-on activities, scientist talks, visits to a museum’s behind the scenes research labs and collections, and field trips. The teachers selected research topics that span the collaborating museum’s areas of expertise and that were broad enough to give youth flexibility in the themes they wanted to explore. Focus group and interview data indicated that allowing adolescents to further specify their STEM interests fostered their STEM identity development. As one girl remarked:

The good thing about [the program is that] we took so many classes on so many subjects.... I got to learn so much about everything in science... I learned what I like and what I do not like. [I] got exposed to everything. (quote in Adams et al. 2014, p. 18)

Hence, the learning experiences provided by this program appeared to enable adolescents to try out roles and activities that were closely related to their already present self-understandings so that they could explore what it actually entails to be a specific type of STEM person. Again, this study, together with the other sociocultural or related studies that concern in-depth explorative learning experiences, stresses the importance of hands-on and on-site learning experiences to support adolescents in making identity commitments.

The literature also indicates that—irrespective of the employed perspective on identity development and research methods—next to hands-on and on-site activities, role models may help adolescents in the in-depth exploration of their identities (Farland-Smith 2012; Hughes et al. 2013; Jones and Deutsch 2013; Whiting 2006). What is more, studies by Farland-Smith

(2012) and Hughes et al. (2013) suggest that exposing marginalized adolescents to role models might help them to challenge stereotypes that would otherwise prevent them from further exploring certain identity positions. For example, Hughes et al. (2013), who combine perspectives on identity development, demonstrated—through survey, observation, and interview data—how meeting female role models in the male-dominated STEM field helped girls to develop a more detailed and knowledge-based (rather than prejudiced) picture of how they could become valuable members of a STEM community. Being introduced to female role models convinced various girls that there was enough space for them in the STEM field, which appeared to stimulate the further exploration of their STEM-related identities.

However, a mixed-methods study among 1138 American adolescents by Gilmartin et al. (2007) in which perspectives on identity are combined too suggests that adolescents only position people who are real experts in their eyes as role models. For example, in their study, it was found that the percentage of female science teachers at a school was not significantly related to adolescents' science engagement and self-understandings. The interviews Gilmartin et al. (2007) performed indicated that female science teachers are not considered as expert role models by adolescents because of their perceived lack of “real-life science experience,” apart from teaching.

Reflective Exploration We identified a group of 12 articles that concern learning experiences that help adolescents reflect upon their already present self-understandings. We refer to these experiences as reflective explorative learning experiences. As can be derived from Table 9 in Appendix B (Online Supplement), the articles that will be discussed in this section comprise five theoretical papers and seven ethnographic studies. One of the ethnographic studies in which a sociocultural perspective on identity development is employed, concerned an extra-curricular reading club for Asian English Language Learners who attended an American high school (Choi 2009). This study indicates, based on student interviews and online student discussions, that stimulating self-reflection, in this case through reading and discussing a novel together with peers, may help adolescents to better understand their own thoughts and feelings and could therefore contribute to their identity development.

The Sinai et al. (2012) study, in which a psychosocial perspective was adopted, demonstrated—through classroom observations, student assignments, and student focus groups—that writing assignments may help adolescents to enter a dialogue with certain parts of themselves, such as a younger version of themselves. In some cases, this appeared to support adolescents in gaining insights into who they currently are and into who they want to become, as was reflected in their narrated self-understandings. Various theoretical articles that either do not explicitly mention a perspective on identity development (Hall 2007) or combine various perspectives on identity development (Harrell-Levy and Kerpelman 2010; Ligorio 2010) also argued that engaging adolescents in (internal) dialogues can help them to learn more about what their interests are, about what they value, and about what kind of persons they want to become.

Next, a theoretical study in which identity development is understood from a sociocultural perspective (Ten Dam et al. 2004), together with a theoretical study that does not explicitly adopt a particular perspective on identity (Rossiter 2007), argued that reflective explorative learning experiences are also important because they may foster adolescents' understanding of how their identity development is influenced by their sociocultural context. The underlying idea is that this could help adolescents to consciously search for a balance in their identity development between societal norms on the one hand and adolescents' individual dreams of who they want to be(come) on the other.

In addition, two ethnographic studies in which a sociocultural perspective on identity development is adopted (Rogers et al. 2007; Vianna and Stetsenko 2011), three ethnographic studies that do not explicitly adopt a particular perspective (Hall 2007; Hardee and Reyelt 2009; Muhammad 2012), and one theoretical study in which various perspectives on identity are combined (Henfield 2012), suggest that offering adolescents, and especially those who are at risk of marginalization, the opportunity to become aware of and critically assess societal inequalities may foster their identity development and make them more resilient. For example, Hardee and Reyelt (2009) examined how alternative arts-based education may support the identity development of adolescents in a juvenile arbitration program and of adolescents who are not succeeding in American public schools. In the arts-based workshops, adolescents were asked to question and challenge dominant ideologies by engaging in theater assignments, writing assignments, and collage-creating assignments. The analysis of the ethnographic data suggests that this helped the participants develop a stronger sense of who they are, what they stand for, and of what external barriers they might have to overcome in their further development. One student for example noted, “It helps to talk about this kind of stuff ’cause this isn’t stuff we talk about in school. I could talk about this all day. It makes me feel stronger inside, like I know me” (quote in Hardee and Reyelt 2009, p. 33). This quote, as well as the studies mentioned above, indicates that learning about structural inequalities may help adolescents to better understand their position in society and to develop their identities while being aware of ascribed positions, in addition to chosen ones.

Conditions for Effective Explorative Learning Experiences

Next to articles on educational processes that may unintentionally or intentionally play a role in adolescents’ identity development, we identified 37 articles that focus on preconditions that are thought to be required when teachers intentionally want to support adolescents in exploring their identities.

Meaningful Learning Experiences We found 20 articles concerning the role of meaningful learning experiences in supporting the development of adolescents’ identities. As is shown in Table 10 in Appendix B (Online Supplement), among these articles, eight theoretical, one quantitative, and 11 ethnographic studies can be found. Various of these articles argued (Brickhouse 2001; Cowie et al. 2011; Flum and Kaplan 2006; Higgins 2015; Steele 1997; Subramaniam et al. 2012) or indicated (Basu et al. 2009; Black et al. 2010; Brickhouse et al. 2000; Cobb et al. 2009; Freire et al. 2009; Hazari et al. 2010; Mittendorf et al. 2008; Mortimer et al. 2010; Polman and Miller 2010; Skerrett 2012; Tan and Calabrese Barton 2007; Thompson 2014), irrespective of their theoretical perspective on identity development (also see Table 2) and employed research methods, that adolescents regard learning experiences as meaningful when they feel there is space for their own out-of-school knowledge and experiences in class and when they can relate what they learned in school to their out-of-school daily life. Additionally, in theoretical papers that employ sociocultural (Lemke 2001), combined (Whiting 2006), or no explicitly mentioned (Higgins 2015; Steele 1997) perspectives on identity development, it is argued that learning experiences are considered to be meaningful when adolescents recognize themselves in the learning material and content.

Together, the studies mentioned in this section suggest that meaningful learning experiences may make it easier for adolescents to link their already present self-understandings to the learning contents and activities in school and vice versa. This may help them to identify with the learning

content and activities, which, in turn, would stimulate them to further explore whether they want to make certain identity commitments when it comes to those contents and activities.

Some of the studies that focus on meaningful learning experiences also explored *how* such experiences can be organized in school. Three ethnographic studies in which a sociocultural perspective is adopted (Basu et al. 2009; Skerrett 2012; Thompson 2014) and an ethnographic study in which various perspectives on identity development are combined (Cobb et al. 2009) found that adolescents, when they are able to voice which themes and learning interests appeal to them, and when teachers take this into account in selecting (or letting the students select) the topics and assignments, may be supported in relating their education to their personal lives. Furthermore, several articles departing from different perspectives on identity development suggest that entering a dialogue with adolescents and discussing the importance and implications of what they learned in school for their personal development may help adolescents to connect what is taught in school to their out-of-school daily lives (Black et al. 2010; Brickhouse et al. 2000; Flum and Kaplan 2006; Middendorff et al. 2008).

Here, it should be noted that identity exploration, which is understood by scholars who adopt a psychosocial perspective on identity development as the questioning of already present identifications through triggering frictions and some discomfort that allow for the (re-)evaluation of childhood identifications (Erikson 1968; Kroger 2007; Marcia 1993; Sinai et al. 2012), does not necessarily exclude the possibility of relating adolescents' personal lives to school and vice versa. Meaningful learning experiences do not have to concern experiences that perfectly suit adolescents. Rather, they are experiences that appeal to adolescents in such a way that they feel motivated to engage in identity exploration.

Supportive Classroom Climate We identified a group of 18 articles that concern the role of a supportive classroom climate in fostering the development of adolescents' identities. As can be derived from Table 11 in Appendix B (Online Supplement), the articles that will be discussed in this section comprise four theoretical papers, one quantitative study, and 13 ethnographic studies. Most articles, irrespective of their perspective on identity development and employed methods (also see Table 2), argued (Cummins et al. 2015; Flum and Kaplan 2006; Hamman and Hendricks 2005) or found (Buxton 2005; Fields and Enyedy 2013; Hazari et al. 2015; Kendrick et al. 2013; Lam and Tam 2011; Olitsky 2007; Tan and Calabrese Barton 2007; Van Ryzin 2014) that it is important to make adolescents feel respected and appreciated to warrant a supportive classroom climate. Also, some of these articles (Flum and Kaplan 2006; Hamman and Hendricks 2005; Hazari et al. 2015; Olitsky 2007; Tan and Calabrese Barton 2007), together with other theoretical (Harrell-Levy and Kerpelman 2010) and empirical (Archer et al. 2009; Carlone et al. 2015) studies (that vary too in the theoretical perspective on identity they adopt), focus on the importance of making adolescents feel secure enough to make "mistakes." Additionally, various articles indicate that peers who approach each other open mindedly (Fields and Enyedy 2013), and recognize each other for who they are and want to be (Cummins et al. 2015; Harrell-Levy and Kerpelman 2010), are essential aspects of a supportive classroom climate too.

The factors listed above are suggested by the literature to stimulate adolescents' identity development, because these factors are thought to make adolescents feel confident in trying out new roles (whether broadening or deepening adolescents' self-understandings), in reflecting on their own thoughts and feelings, and in critically assessing societal inequalities. Discovering who you are and want to be is understood to require some courage, because it may involve risks and discomfort; it is accompanied by new experiences and change (Erikson 1968; Kroger 2007; Marcia 1993; Sinai et al. 2012). A supportive social climate may help

adolescents to feel safe enough to take these risks and deal with such possible discomfort. In the group of literature that focuses on the role of a supportive classroom climate in supporting the development of adolescents' identities, we found several suggestions to foster a supportive classroom climate. First, two theoretical (Hamman and Hendricks 2005; Lam and Tam 2011) and two ethnographic (Robb et al. 2007; Rudd 2012) articles that differ in the perspectives on identity development that they employ indicate that teacher compliments (Hamman and Hendricks 2005; Robb et al. 2007) and warm teacher-student relationships (Lam and Tam 2011; Rudd 2012) may contribute to a supportive classroom climate. Some of these articles argued (Hamman and Hendricks 2005) or demonstrated (Robb et al. 2007; Rudd 2012) that this is the case, because teacher compliments and personal teacher-student relationships make students feel recognized and valued.

Second, other articles (again differing in the perspective on identity development they employ) focus on how teachers can communicate to their students that they are allowed to make mistakes (Archer et al. 2009; Hazari et al. 2015; Tan and Calabrese Barton 2007; Rudd 2012). For example, Hazari et al. (2015) found, in their ethnographic study on physics classes that is grounded in a sociocultural perspective, that when teachers share their own doubts and make mistakes every once in a while, this may help to reassure students, as comes to the fore in the following quote:

Well, like I do not know if he does it on purpose but sometimes he makes mistakes like in the problems and stuff and like the whole class laughs and then it makes us feel more comfortable because like he, our own teacher is making mistakes. (quote in Hazari et al. 2015, p. 749)

Together with the ethnographic study by Tan and Calabrese Barton (2007) that is grounded in a sociocultural perspective too, the study by Hazari et al. (2015) indicates that adolescents, when they do not continuously feel the pressure to perform, may feel more supported to freely explore their identities. Additionally, the study by Rudd (2012), in which perspectives on identity development are combined, suggests that when teachers approach their students open mindedly—in the sense that they offer students second chances and chances to reposition themselves on a regular basis—students may feel less judged and restricted and may therefore feel more invited to explore their identity.

Finally, several ethnographic studies differing in their adopted theoretical perspectives on identity development demonstrated how mutual recognition among peers could be stimulated by engaging adolescents in learning activities that invite mutual encouragement (Carlone et al. 2015; Tan and Calabrese Barton 2007) or by making adolescents aware of what they have in common (Hardee and Reyelt 2009; Jones and Deutsch 2013; Parker 2014; Tan and Calabrese Barton 2007). For example, in an art program studied by Hardee and Reyelt (2009), adolescents were asked to create art pieces. Subsequently, the adolescents discussed their personal interpretations of the art that was made, which, based on observation and interview data, appeared to make them aware of the experiences and views they shared that seemed to foster adolescents' bonding processes.

Discussion

School, a place where adolescents spend a lot of time and are introduced to new ideas and activities, is an important context where adolescents' identity development can be supported

(e.g., Flum and Kaplan 2006; Kaplan and Flum 2009; Kaplan and Flum 2012; Rich and Schachter 2012; Schachter and Galili-Schachter 2012; Schachter and Rich 2011; Silseth and Arnseth 2011). Yet, due to a scattered research field, it was difficult to establish how schools and teachers can foster adolescents' identity development and what knowledge gaps should be addressed to further support schools and teachers in doing so. Therefore, the present literature review aimed to present an overview of what insights the existing literature provides into the role of school in adolescents' identity development.

We found that three groups of literature could be distinguished in the existing literature. The first group concerns articles that focus on educational processes through which adolescents' identity development may *unintentionally* (and often negatively) be informed by schools, teachers, and peers: selection practices and differentiation, teaching strategies, teacher expectations, and peer norms. The second group of articles regards educational processes through which schools and teachers can *intentionally* organize experiences that support adolescents' identity development: namely, through in-breadth exploration, in-depth exploration, and reflective exploration. The third group of articles comprises studies on two *preconditions* that are required to intentionally support adolescents' identity development in school: meaningful learning experiences and a supportive classroom climate.

What struck us is that a fair share of studies on educational processes that may *unintentionally* play a role in adolescents' identity development were performed in formal educational settings, whereas most of the studies on how schools and teachers can *intentionally* organize experiences that support adolescents' identity development were conducted in extracurricular and out-of-school settings. The absence of studies on explorative learning experiences in adolescents' identity development in formal education suggests that explorative learning experiences are currently not well integrated in the formal curriculum. We think this is worrisome, as introducing students to new learning contents and activities is the main purpose of formal education. Furthermore, the literature on educational processes that may unintentionally play a role in adolescents' identity development shows how schools and teachers may significantly impact adolescents' identities in a negative way. Yet, neither in educational practice nor in educational research, enough attention is paid to how adolescents' identities can be influenced in a constructive manner in formal education.

What Schools and Teachers Can Learn About Their Role in Adolescents' Identity Development

One of the contributions of this review is that it invites schools and teachers to look at educational practices in new, critical ways: The review shows how educational processes that may be considered as unproblematic could unintentionally shape how adolescents' come to understand themselves and provides suggestions for how learning experiences that support adolescents' identity development can be integrated in the curriculum.

First, this review makes clear that educational processes that unintentionally play a role in adolescents' identity development are ubiquitous. The literature identified the following educational processes through which messages are communicated to adolescents concerning who they should or can be: *selection practices and differentiation, teaching strategies, teacher expectations, and peer norms*. It is in relation to such messages that adolescents' develop their identities; These messages can be internalized by adolescents. Moreover, the identified educational processes involve practices that tend to be considered as normal, unproblematic, and—in the cases of selection processes, differentiation, and certain teaching strategies—

efficient, yet were found to often inform adolescent's self-understandings in a negative way. Based on the literature, it can be recommended that becoming more aware of and reflect more upon the messages that these practices may communicate could help to prevent adolescents' identity development from being influenced in a negative manner.

Second, this review showed that different types of explorative learning experiences can be organized to foster adolescents' identity development: *in-breadth*, *in-depth*, and *reflective explorative learning experiences*. Adolescents can be stimulated to explore new identity positions through in-breadth exploration or be helped to explore and further specify already existing self-understandings through in-depth exploration. Alternatively, schools and teachers can foster adolescents' understandings of their own thoughts and feelings through reflective explorative learning experiences. Schools can ask themselves how they can restructure the curriculum in such a way that it enables these different types of explorative learning experiences, and teachers can ask themselves how they can redesign their classes so that they become explorative learning experiences. No matter what the specific identity development purpose is, and while acknowledging that this may be difficult to arrange, the literature suggests that explorative learning experiences should be meaningful to adolescents and situated in supportive classroom climates in order to be successful.

We would like to stress, though, that the provision of explorative learning experiences in formal education to support adolescents' identity development does not necessarily entail an extra task for teachers and schools. Introducing adolescents to new ideas, activities, and possibilities is what teachers and schools are supposed to do anyway. Providing explorative learning experiences is a way of fulfilling this task through a pedagogical approach that stimulates adolescents to connect what they are taught in school to who they are and want to be (Biesta 2014; Vianna and Stetsenko 2011).

Directions for Future Research

In our selection of literature, studies that are grounded in sociocultural, psychosocial, social psychological, and sociological perspectives on identity development can be found. Currently, the great majority of these studies looks at adolescents' identity development from a socio-cultural perspective and provides insights into how available norms, values, tools, and identity positions in schools may impact how adolescents come to understand themselves. Yet, studies grounded in a psychosocial, social psychological, or sociological perspective on identity development are less prevalent (also see Table 2).

In this review, it has become clear—by primarily grouping the selected studies based on the identified educational processes and preconditions, instead of based on the theoretical perspectives on identity that are adopted—that when scholars, who differ in their adopted theoretical perspectives on identity, would combine their strengths, this could make a large difference in moving this body of research forward.

So far, only the role of selection practices and differentiation, peer norms, and supportive classroom climates in adolescents' identity development have been studied from different theoretical perspectives. For example, when it comes to the educational process of selection practices and differentiation, studies using a sociocultural perspective showed the impact ability grouping may have, through the different identity positions that are available to different ability groups, on adolescents' engagement with school (as an indication of adolescents' school- and learning-related identities). Yet, without studies that employed a social psychological perspective, we would not have

known as much about the more negative behavioral and personality characteristics that are attributed to students from lower status educational tracks compared to students from higher status tracks. Next, psychosocial studies have found indications for differences in the process of identity development (in terms of exploration and commitment) between students in different academic tracks, although the direction of the differences remains still unclear. Hence, when studies examine the role of educational processes in adolescents' identity development from different angles, this may provide us with invaluable and complementary insights (also see Lewis and Valle 2009). Yet, as the articles on the role of peer norms and supportive classroom climates show, studies that differ in the theoretical perspective on identity they are grounded in can also approach the role of certain educational processes in adolescents' identity development in a similar way, consequently validating each other's research findings. To illustrate, articles in which a sociocultural perspective is employed, as well as articles in which a psychosocial or no explicitly mentioned perspective on identity development is adopted, all suggest that peers may restrict each other's access to certain identity positions by refusing to recognize each other in certain ways or by stigmatizing particular identity positions which makes these positions less appealing to publicly identify with.

For the majority of the educational processes that are identified in the existing literature, it still remains to be seen to what extent research grounded in different theoretical perspectives on identity development would complement and/or validate each other. However, the findings that are derived from articles on selection processes and differentiation, peer norms, and supportive classroom climates promise that research on the other identified educational processes, when studied from different angles, will add to the current research field. Furthermore, by bringing research concerning particular educational processes and preconditions together, based on different theoretical perspectives on identity, this literature review allows scholars to see how their research may complement research performed by scholars who employ other theoretical perspectives, and vice versa, while supporting them in identifying research gaps when it comes to particular educational processes or preconditions.

To date, studies that are grounded in psychosocial, social psychological, and sociological perspectives tend to be less occupied with whether and how educational processes and preconditions in day-to-day school-based experiences and interactions may impact adolescents' identities than studies in which a sociocultural perspective is employed. This is a limitation of the existing body of research that points to a direction for future research and, moreover, that cannot be easily substituted by findings from other strands of research. Although psychologists do study the identity-related phenomena of *self-concept* (people's perceptions of themselves; Marsh 1990) and *possible selves* (people's positive and negative images of their selves in a future state; Oyserman et al. 2006) in education, these phenomena are generally studied in a quantitative manner to examine respectively their relation to adolescents' academic achievements (e.g., Marsh 1990) and goal-related actions (e.g., Oyserman et al. 2006). These strands of research too tend to be less concerned with how daily interactions and experiences in school inform adolescents' self-concepts or possible selves.

With regard to more circumscribed identity dimensions, the existing research was highly skewed towards studies on the development of adolescents' STEM identities. Research on schools' role in the development of, for example, adolescents' history identities or geology identities is non-existent, and studies concerning the role of school in adolescents' literacy identity are scarce. It remains to be studied whether these identity dimensions—as well as identity dimensions not covered in this review study, such as gender and ethnic identities—are

subject to the same educational processes as the identity dimensions that are prevalent among the articles included in this review.

We would like to conclude our literature study by emphasizing that this review demonstrates, more than anything, that even though we know that schools and teachers in formal education may unintentionally impact adolescents' identity development, there are only a few studies on how adolescents' identity development can intentionally be supported in *formal education* (referred to as "identity education" by Schachter and Rich 2011). Moreover, the body of literature on learning experiences that can intentionally be organized to support adolescents' identity development suggests that learning experiences outside of school may impact the identities of adolescents too. This is something to take into account in future research, as adolescents participate in learning experiences in various contexts (home, sports clubs, side jobs), and the communicated identity messages and explorative learning experiences of each of these contexts may interact. The bottom line is, though, that, currently, research (irrespective of its perspective on identity development) cannot sufficiently support schools and teachers in the intentional fostering of adolescents' identity development in formal education: The strategies that are identified by the literature on extracurricular and out-of-school settings may not simply be transferable to formal school settings. Therefore, we argue that, to support adolescents' identity development in our contemporary society, future research's first priority should be to map to what extent identity exploration is encouraged in current formal curriculums and to provide insights into how adolescents' identity development can successfully and intentionally be fostered in formal education.

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