Appendix B – Summaries of the studies included in the literature review[a]

Table 3 The role of selection practices and differentiation in the identity development of adolescents

Study	Country	Methodology	Identity dimension(s); Theoretical framework	Most important findings
Anagnostopoulos (2006) *"Real students" and "true demotes": Ending social promotion and the moral ordering of urban high schools*	U.S.A.	Type: Qualitative Participants: 10th grade classrooms of two urban high schools Design: Longitudinal (over the course of several weeks) Data: Classroom observations of English classes and over 60 interviews with teachers, principals, other school personnel and students	Social identity; Sociological perspective	According to the author, an obligatory homework class for underperforming students allowed students and teachers to distinguish between the following social identities: chronically underperforming students, students who underperform momentarily, and well performing students.
Barnett (2006) *Flying high or crashing down: Girls' accounts of trying out for cheer-leading and dance*	U.S.A.	Type: Qualitative Participants: 18 female students who were not selected for the cheerleading/dance team and 18 female students who were selected for either one of these teams Design: Longitudinal (over the course of two months) Data: Two interviews per	Personal, social and school identity; No particular theoretical perspective on identity development is mentioned	The findings suggest that being selected for the popular school teams positively affected the development of students' personal, social and school identity. However, the development of these identity dimensions among students who were not selected for the teams appeared to be negatively affected. Whereas for the former group being selected caused them to experience self-contentment, a higher social status and feelings of engagement with school, the

[a] References that have not already been referred to in the manuscript, can be found in the reference list of the present appendix.

		student and school observations		opposite applied for the latter group.
Čeplak (2012) *The individualisation of responsibility and school achievement*	Slovenia	Type: Qualitative Participants: Approximately 100 high school students Design: Cross-sectional Data: 22 student focus groups, 22 student reports, and 44 student interviews. All participating students were in the academic track	Social identity; Sociological perspective	It was found that, in a context of high expectations of academic achievement, students' experiences with school success or failure created socially constructed yet real categories of students, characterized by a certain social status, such as 'unsuccesful students'. Additionally, the study demonstrated that when people started to link intelligence to educational levels, this allowed imposed identities of incapable or even stupid students to emerge among 'unsuccessful students'.
Hoffman (2012) *Exclusion, engagement and identity construction in a socioeconomically diverse middle school wind band classroom*	U.S.A.	Type: Qualitative Participants: Six 6th grade students who enrolled in a wind band class Design: Longitudinal (over the course of five months) Data: Classroom observations, observations of faculty meetings, three interviews per student, and student logs	Social and musical identity; Combined theoretical perspectives (e.g., Erikson, 1963; Tajfel & Turner, 1979; Wenger, 1998)	The results indicated that students (re)evaluated their identification with the band and their role in it, based on their perceived positioning by others. Those who felt rejected chose to enroll in other courses. Students who felt they could contribute to the band more strongly seemed to identify with the group. What is more, the study demonstrated how students in more privileged families had access to out-of-school music classes, unlike other students, which increased their chances of getting access to the best social positions within the wind band ensemble. This, in turn, appeared to mainly boost the development of the privileged students'

				social and musical identities.
Jonsson and Beach (2015) *A problem of democracy: Stereo-typical notions of intelligence and identity in college preparatory academic program-mes in the Swedish upper secondary school*	Sweden	Type: Qualitative Participants: 224 students in the final year of the pre-academic track Design: Cross-sectional Data: Written student reports on typical students in academic programs and on typical students in vocational programs	Social identity; Social psychological perspective	Students in the pre-acadamic track ascribed themselves qualities such as *hard working* and with *good career prospects*, whereas they ascribed students from the pre-vocational track qualities like *daring, challenging toward authority* and *rebellious.*
Knigge and Hannover (2011) *Collective school-type identity: Predicting students' motivation beyond academic self-concept*	Germany	Type: Mixed-methods Participants: 39 students of whom 21 were in the prevocational program. The other students were in the final year of primary education Design: Cross-sectional Data: Student surveys that comprised both open and closed questions	Social identity; Social psychological perspective	Adolescents indicated that people would think badly of students in a pre-vocational track while students in a pre-academic track would enjoy a good reputation.
Negru-Subtirica et al. (2015) *Developmental trajectories and*	Romania	Type: Quantitative Participants: 1112 students between 13 and 18 years old Design: Longitudinal (over	Vocational identity; Psychosocial perspective	Students in the prevocational track were found to be more likely to find themselves in a state of identity diffusion. Students in the pre-academic track, however, were

reciprocal associations between career adaptability and vocational identity: A three-wave longitudinal study with adolescents		the course of about four months) Data: Student surveys		more likely to find themselves in a state of identity moratorium or achievement.
Pfeiffer et al. (2012) *School type differences in attainment of developmental goals in students with visual impairment and sighted peers*	Germany	Type: Quantitative Participants: 196 students between 11 and 18 years old who are in the pre-academic or intermediate track Design: Cross-sectional Data: Student surveys	Personal identity; No particular theoretical perspective on identity development is mentioned	Students in the intermediate track reported a higher attainment of having clear ideas about how they want to live their lives than students in the pre-academic track.
Sica (2009) *Adolescents in different contexts: The exploration of identity through possible selves*	Italy	Type: Mixed-methods Participants: 105 students between 14 and 18 years old Design: Cross-sectional Data: Student surveys that comprised both open and closed questions	Personal identity; Psychosocial perspective	The identity development of students from a school with a large population of low SES students was found to be more often motivated by a fear of who or what they did not want to become when they were older. However, the identity development of students from a school with a large population of high SES students was more often motivated by the self-understandings of their current self or by their imagined (not as terrifying) futures.

Solomon (2007) *Experiencing mathematics classes: Ability grouping, gender and the selective development of participative identities*	U.K.	Type: Qualitative Participants: 18 students between 14 and 16 years old Design: Cross-sectional Data: Student interviews	Mathematics identity; Sociocultural perspective	The grouping of high-performing mathematics students in special mathematics classes appeared to foster the development of mathematics identities. These students appeared to be more engaged in their mathematics classes. However, students who were not allocated to this special mathematics class seemed to develop mathematics identities of less well participating mathematics students.
Solomontos-Kountouri and Hurry (2008) *Political, religious and occupational identities in context: Placing identity status paradigm in context*	Greek-Cyprus	Type: Quantitative Participants: 1038 students between 16 and 19 years old, of whom 814 went to a state school, 150 to a state technical school and 74 to a private school Design: Cross-sectional Data: Student surveys	Vocational identity; Psychosocial perspective	Students of the state technical school were found to be more likely than the two other groups of students to be in an identity diffusion status with respect to the development of their vocational identities. Students of the private school were found to be more likely than the two other groups of students to be in an identity moratorium status with respect to the development of their vocational identities.

Yi (2013) *Adolescent multilingual writer's negotiation of multiple identities and access to academic writing: A case study of a jogi yuhak student in a US high school*	U.S.A.	Type: Qualitative Participant: An English as a Second Language student from South Korea. At the beginning of the study, the student was 17 years old Design: Longitudinal (over the course of two years) Data: Participant observations of tutor meetings, student interviews and teacher interviews	Student identity; Sociocultural perspective	The results suggested that when English as a Second Language students are forced to take extra language classes, and when these classes are perceived to be associated with a stigma, English as a Second Language Learners may internalize this stigma in the development of their student identities.

Table 4 The role of teaching strategies in the identity development of adolescents

Study	Country	Methodology	Identity dimension(s); Theoretical framework	Most important findings
Anderson (2007) *Being a mathematics learner: Four faces of identity*	U.S.A.	Type: Qualitative Participants: 14 students between 16 and 18 years old. Some of the students did enroll in mathematics courses, whereas others did not; 1 mathematics teacher Design: Cross-sectional Data: Classroom observations, student interviews and teacher interviews	Mathematics identity; Sociocultural perspective	The analysis indicated that when students are able to develop their own strategies and meanings for solving mathematics problems, they learn to view themselves as capable members of a community engaged in mathematics learning. When their ideas and explanations are accepted in a classroom discussion, others also recognize them as members of the community. Also, when students are not able to make connections between the mathematics they learn in school and its perceived utility in their lives, they may construct an identity that does not include the need for advanced mathematics courses in high school. Furthermore, students who are not the quickest to get the correct answers may learn, albeit erroneously, that they are not capable of learning mathematics.
Aschbacher et al. (2010) *Is science me? High school students'*	U.S.A.	Type: Qualitative Participants: 33 10th grade students from six different high schools who	Science identity; Sociocultural perspective	The analysis indicated that providing students with merely one and a relatively narrow social position of a good science student (in this instance memorizing the

identities, participation and aspirations in science, engineering, and medicine		demonstrated an interest in Science, Engineering and Medicine Design: Longitudinal (over the course of three years, from 10th grade onwards) Data: Student interviews and student questionnaires		book) may encourage students to disengage from science.
Brickhouse et al. (2000) *What kind of a girl does science? The construction of school science identities*	U.S.A.	Type: Qualitative Participants: 4 African-American girls from a lower economic background Design: Longitudinal (over the course of 18 months - during grade 7 and grade 8) Data: Student logs, classroom observations, student focus groups, and student, teacher and parent interviews	Science identity; Combined theoretical perspectives on identity development (e.g., Lave, 1998; Lloyd & Duveen, 1992)	The analysis indicated that providing students with various social positions of good science students (for example of being good at lab assignments, but also of being good at memorizing facts and theories) supports the development of students' science identity: it caused them to be more engaged in their science class in the sense that they demonstrated more initiative and that there were more science-related interactions with peers and teachers.
Calabrese Barton et al. (2013) *Crafting a future in science: Tracing middle school girls' identity work over time and space*	U.S.A.	Type: Qualitative Participants: 2 African-American girls Design: Longitudinal (from grade 6 through grade 8) Data: Curricular and extracurricular classroom observations, student interviews and school assignments	Science identity; Sociocultural perspective	The analysis indicated that providing students with merely one and a relatively narrow social position of a good science student (in this instance someone who works fast) may encourage students to disengage from science and to develop the idea that they are not good at it, even though they actively and enthusiastically participate in extracurricular science activities.

Carlone (2004) *The cultural production of science in reform-based physics: Girls' access, participation and resistance*	U.S.A.	Type: Qualitative Participants: An elective Active Physics class comprising students from different grades Design: Longitudinal (over the course of six weeks) Data: Classroom observations, student assignments, e-mail correspondence of teachers and students, student questionnaires, and interviews with students, teachers, and other school personnel	Science identity; Sociocultural perspective	The analysis indicated that providing students with merely one and a relatively narrow social position of a good science student (in this instance someone who completes lab assignments fast and successfully) may encourage students to focus on working fast and effective rather than on meaningfully connect with science.
Charland (2010) *African-American youth and the artist's identity: Cultural models and aspirational foreclosure*	U.S.A.	Type: Qualitative Participants: 58 African-American students who participated in one of the art classes of four urban high schools Design: Cross-sectional Data: Student interviews and focus groups	Artist identity; Psychosocial perspective	The analysis indicated that providing students with merely one and a relatively narrow social position of a good art student (in this instance someone who follows instructions rather than expressing him- or herself) may encourage students to disengage from visual art and to not further explore their artist identities.
Clark et al. (2013) *African-American mathematics teachers as agents in their African-American students'*	U.S.A.	Type: Qualitative Participants: 2 mathematics teachers Design: Cross-sectional Data: Classroom observations	Mathematics identity; Sociocultural perspective	Teachers may have different ideas about when someone can be regarded a successful mathematics student, which may inform the way they organize their mathematics classes. Consequently, teachers may provide students with different sets of

mathematics identity formation		and teacher interviews		social positions of successful mathematics students in relation to which students can develop their mathematics identities.
Cobb et al. (2009) *An interpretive scheme for analyzing the identities that students develop in mathematics classrooms*	U.S.A.	Type: Qualitative Participants: 11 mathematics students who were taught both data analysis and algebra in their middle school Design: Longitudinal (over the course of fourteen weeks) Data: Classroom observations and student focus groups	Mathematics identity; Combined theoretical perspectives on identity development (e.g., Boaler & Greeno 2000; Holland et al. 1998)	The researchers found that in the algebra class someone was considered a good mathematics student when he/she was able to solve various concrete mathematical problems. In the data analysis class someone was considered a good mathematics student when he/she demonstrated a conceptual understanding of mathematics. In this latter class, there was more space for discussion, student input and creativity than in the algebra class which mainly evolved around repetitive assignments. Therefore, the data analysis class provided students with a broader range of opportunities to identify with mathematics, which fostered the development of mathematics identities in this class.
Cone et al. (2014) *Negotiating a sense of identity in a foreign land: Navigating public school structures and practices that often conflict with Haitian culture and*	U.S.A.	Type: Qualitative Participants: 12 middle school students from Haitian descent as well as 12 parents and teachers from Haitian descent Design: Cross-sectional Data: Interviews and focus groups with the group of students, the group of parents	Student identity; Combined theoretical perspectives on identity development (e.g., Bourdieu 1977; Foley et al. 1996)	The analysis indicated that when students are offered one particular way to be a good student in one country (in the instance of the U.S.A of someone who develops and expresses his or her own opinion and thinks critically), while they were raised with a different ideas about how a good student behaves in another country (in this instance being quiet, obedient and good in memorizing facts), this may cause some

values		and the group of teachers		confusion among students in the development of their learner identities.
DeGennaro and Brown (2009) *Youth voices: Connections between history, enacted culture and identity in a digital divide initiative*	U.S.A.	Type: Qualitative Participants: 12 African-American students between 12 and 15 years old who took an extracurricular web design class Design: Longitudinal (throughout the entire course) Data: Classroom observations, student interviews and student assignments	Technology identity; No particular theoretical perspective on identity development is mentioned	The analysis indicated that providing students with merely one and a relatively narrow social position of a good web design student (in this instance someone who follows instructions very carefully, without thinking out of the box) may not allow them to connect to technology in a meaningful way and to think of themselves as technology users.
Evnitskaya and Morton (2011) *Knowledge construction, meaning-making and interaction in CLIL science classroom communities of practice*	Spain	Type: Qualitative Participants: A biology class with students of 12 years old and a biology class with students of 16 years old Design: Cross-sectional Data: Classroom observations	Science identity; Sociocultural perspective	The findings show that teachers and learners use different linguistic and other resources to make meaning in relation to which adolescents construct their identities.
Hamilton (2002) *Constructing pupil identity: personhood and ability*	Scotland	Type: Qualitative Participants: 4 schools of which 2 were public schools and 2 were private schools Design: Cross-sectional Data: Classroom	Pupil identity; No particular theoretical perspective identity development is mentioned	The schools in this study assessed students' academic performances in different ways. The public schools focused more on students' grades to determine their performance in comparison to their fellow students, whereas at one private school in

		observations, institutional documents, and interviews with students, parents, teachers and principals		particular more value was attached to a description rather than the grading of students' performances (for example: this student is able to understand the deeper meaning of texts). The way students' academic performances were assessed appeared to be reflected in how the students understood themselves as learners.
Horn (2008) *Turnaround students in high school mathematics: Constructing identities of competence through mathematical worlds*	U.S.A.	Type: Qualitative Participants: 7 students who entered high school underprepared for college preparatory mathematics yet managed to succeed in their introductory college preparatory mathematics classes Design: Longitudinal (no information is presented on the time span) Data: Student and teacher interviews, classroom observations, observations of department meetings, a teacher belief survey, and senior graduation transcripts	Mathematics identity; Sociocultural perspective	In a class with a cumulative mathematics curriculum, someone's social position as a mathematics student, and hence the development of his/her mathematics identity, was affected by how long he/she could keep up with the learning content. The results suggested that this caused a fair share of students to relatively easy develop the idea that they are not good at mathematics. Additionally, it was found that in a mathematics curriculum that leaves space for differences in mathematics abilities and that allows all students to participate in class, students were more likely to develop positive mathematics identities.
Lambert (2015) *Constructing and resisting disability in mathematics class-rooms: a case study*	U.S.A.	Type: Qualitative Participants: 2 students of 12 years old during their mathematics classes. Both students were identified as	Mathematics identity; Sociocultural perspective	The students in this study were offered a variety of mathematical learning activities such as participating in mathematical discussions or learning about formulas. The results suggested that this allowed students

exploring the impact of different pedagogies		learning disabled Design: Longitudinal (over the course of a schoolyear) Data: Classroom observations, student interviews and teacher interviews		to identify with or disengage themselves from mathematics in different ways, and that this played a role in how they came to see themselves as mathematics learners.
Rubin (2007) *Learner identity amid figured worlds: Constructing (in)-competence at an urban high school*	U.S.A.	Type: Qualitative Participants: A class at an urban high school. Six students were selected as key informants and the focus was on social science classes Design: Longitudinal (throughout grade 9) Data: Classroom observations, student interviews, teacher interviews, and school, district, and state education department records	Learner identity; Sociocultural perspective	The analysis indicated that providing students with merely one and a relatively narrow social position of a good learner (in this instance someone who successfully completes repetitive assignments) may encourage students to disengage from learning in school and to develop the idea that they are not good at it.
Smagorinsky et al. (2005) *The construction of meaning and identity in the composition and reading of an architectural text*	U.S.A.	Type: Qualitative Participants: A 19 year old student in high school and his architecture teacher Design: Longitudinal (over the course of three months) Data: Classroom observations and student and teacher interviews	Learner identity; No particular theoretical perspective identity development is mentioned	The analysis indicated that providing students with merely one and a relatively narrow social position of a good learner (in this instance someone who follows instructions and does not think out of the box) may encourage students to disengage from learning.

Wallace (2012) *Authoritarian science curriculum standards as barriers to teaching and learning: An interpretation of personal experience*	N/a	Type: Theoretical	Science identity; No particular theoretical perspective identity development is mentioned	It is argued that providing students with merely one and a relatively narrow social position of a good science student in an authoritarian way (in this instance someone who follows instructions) may disencourage students to engage in science and to connect to it in a meaningful way.

Table 5 The role of teacher expectations in the identity development of adolescents

Study	Country	Methodology	Identity dimension(s); Theoretical framework	Most important findings
Aschbacher et al. (2010) *Is science me? High school students' identities, participation and aspirations in science, engineering, and medicine*	U.S.A.	Type: Qualitative Participants: 33 10th grade students from six different high schools who demonstrated an interest in Science, Engineering and Medicine Design: Longitudinal (over the course of three years, from 10th grade onwards) Data: Student interviews and student questionnaires	Science identity; Sociocultural perspective	Teachers may (consciously and explicitly, or not) communicate different expectations towards different groups of students. The results of this study demonstrated that many Asian-American students thought that their science teachers had high expectations of them and their abilities, whereas many African-American and Latino students thought that their science teachers had lower expectations of them than of the other students in their class. This appeared to inform the development of the science identities of the latter two groups who, because of these perceived teacher expectations, appeared to be less inclined to enroll in a science-related education program after high school.
Bartlett (2007) *Bilingual literacies, social identification, and educational trajectories*	U.S.A.	Type: Qualitative Participants: 1 immigrated student at a bilingual school Design: Longitudinal (over the course of four years) Data: Annual student	Student identity; Sociocultural perspective	In the school that was studied the school staff collectively conveyed that all students in that school had the possibility to grow and flourish, irrespective of, for example, their first language. In this school, Spanish was considered a resource rather than a

		interviews, classroom observations and teacher interviews		problem. Also, because various classes were taught by teachers that, like some of the students, had a non-dominant cultural background, it seemed easier for students to feel accepted, appreciated and included. The results indicated that this, combined with the high expectations that teachers explicitly had of their students, fostered the development of students' student identity.
Berg (2010) *Negotiating identity: Conflicts between the agency of the student and the official diagnosis of social workers and teachers*	Norway	Type: Qualitative Participant: A foster child Design: Longitudinal (over the course of two years) Data: Classroom observations, observations of meetings between social workers and teachers, school records, student interviews, and interviews with social workers and teachers	Student identity; Sociocultural perspective	Repetitively, the research participant was approached by his teachers and social workers based on others' reports and on the previous experiences they had with him as an outsider and a difficult student. As a consequence, the teachers and social workers would no longer be open to the student's changed behavior, or they would not be able to recognize this as such. Because of this, the range of social positions that were accessible to the student was limited, which was found to hinder his identity development as a student.
Bottrell (2007) *Resistance, resilience and social identities: Reframing*	Australia	Type: Qualitative Participants: 12 female adolescents who visit a youth center on a regular basis	Social identity; Sociological perspective	Because teachers (explicitly and consciously, or not) perceivably distinguished between more and less successful students, some students who felt

'problem youth' and the problem of schooling		Design: Longitudinal (over the course of one year) Data: Youth center observations and adolescent interviews		they belonged to the group of less successful students got the idea that they were not worth bothering about.
Edwards-Groves and Murray (2008) *Enabling voice: Perceptions of schooling from rural aboriginal youth at risk of entering the juvenile justice system*	Australia	Type: Qualitative Participants: 17 male adolescents with an Aboriginal background who showed potential but were at risk of entering the criminal justice system Design: Longitudinal (over the course of eighteen months) Data: Classroom observations, observations of recreational activities, and interviews and focus groups with those adolescents	Student identity; Sociocultural perspective	Teachers may (consciously and explicitly, or not) communicate different expectations towards different groups of students. The results of this study demonstrated that Aboriginal students thought that their teachers had lower expectations of them than of the other students in their class. Based on these perceived teacher expectations, some of the Aboriginal students came to understand themselves as slow students.
Fields and Enyedy (2013) *Picking up the mantle of "Expert": Assigned roles, assertion of identity, and peer recognition*	U.S.A.	Type: Qualitative Participants: 2 students of 11 years old who were skilled in programming, and their year groups Design: Longitudinal (over the course of several months)	Student identity; Sociocultural perspective	The teacher positioned the students repetitively as programming experts. The results indicated that, especially when the students thought that their friends and family also positively valued their programming skills, this stimulated the students to identify with the social position

within a programming class		Data: Classroom observations, observations at students' homes, observations at the students' programming club, student interviews, student questionnaires and focus groups with the two students and the students in their collaboration groups		of a programming expert and with the social position of a successful student.
Heyd-Metzuyanim (2013) *The co-construction of learning difficulties in mathematics--teacher-student interactions and their role in the development of a disabled mathematical identity*	Israel	Type: Qualitative Participants: A mathematics teacher and a 13 years old student who struggles with mathematics Design: Longitudinal (over the course of five months) Data: Classroom observations, mathematics assignments, a student interview and a parent interview	Mathematics identity; Sociocultural perspective	The teacher (who is the author of this publication) stopped engaging with a student in her class during some point of the year, because she no longer expected the student to make any additional progress in mathematics. Consequently, the student changed the story of herself as a mathematics learner from someone who is willing and able to learn mathematics to someone who could no longer grow as a mathematics student.
Jethwani (2015) *"Girls have more of an educational brain": A qualitative exploration of the*	Bermuda	Type: Qualitative Participants: 35 black low-income or middle class students between 13 and 15 years old who attend schools	Student identity; Combined theoretical perspectives on identity development (e.g., Bronfenbrenner 1979;	Teachers may (consciously and explicitly, or not) communicate different expectations towards different groups of students. The results of this study demonstrated that male students thought that their teachers assumed

gender gap in educational attainment among black Bermudian adolescents		of which over 90% of the student population is black Design: Cross-sectional Data: Student interviews	Shields 2008)	that boys are more likely to be disobedient than girls. According to the student participants, teachers reacted more surprised when female students disobeyed, or when male students performed well. Also, the students reported that teachers expressed more concerns with respect to what the male students would end up like.
Johnson et al. (2011) *Authoring identity amidst the treacherous terrain of science: A multiracial feminist examination of the journeys of three women of color in science*	U.S.A.	Type: Qualitative Participants: 3 women with non-dominant cultural backgrounds who built a career in the field of science Design: Cross-sectional Data: Interviews with two of the research participants and a report of the third participant	Science identity; Sociocultural perspective	The participants shared that they thought their science teachers had lower expectations of them as female African-American students than of the other students in their class. Consequently, they felt they would never be recognized as taking up the identity position of a successful science student.
Landers (2013) *Towards a theory of mathematics homework as a social practice*	U.S.A.	Type: Qualitative Participants: 14 middle school students with different mathematics performances, their mathematics teacher and their parents Design: Longitudinal (over the course of three years) Data: Classroom	Student identity; Sociocultural perspective	The results suggested that when students are repetitively approached by their teachers based on their previously demonstrated good behavior (for example because they are known to finish their homework in time), this informs their self-understandings as a student.

		observations, student logs, student interviews, teacher interviews, and parent interviews		
Olitsky et al. (2010) *Coherence, contradiction, and the development of school science identities*	U.S.A.	Type: Qualitative Participants: A magnet middle school 8th grade classroom. The students were admitted to this school because of their previous performances. Four female students (of whom some have a non-dominant background) participated in a collaborative research project together with a university-researcher and their science teacher Design: Longitudinal (over the course of a schoolyear) Data: Classroom observations and student interviews	Learner identity; Sociocultural perspective	The results indicated that when students perceive to be repetitively approached by their teachers based on their previously demonstrated behavior (for example too active or disobedient behavior), teachers may no longer be open to improved student behavior, or they may not be able to recognize this as such. Because of this, the range of identity positions that, in students' experience, are accessible to them is limited, and informs how they come to understand themselves as a learner.
Rubin (2007) *Learner identity amid figured worlds: Constructing (in)competence at an*	U.S.A.	Type: Qualitative Participants: A 9th grade classroom at an urban high school. Six students were selected as key informants and the focus was on social	Learner identity; Sociocultural perspective	The results indicated that the teachers talked about the Latino students as "urban, deficient, prone to delinquency, unmotivated and severely disadvantaged by their families" (p. 234). This categorization was reinforced through interactions

urban high school		science classes Design: Longitudinal (over the course of a schoolyear) Data: Classroom observations, student interviews, teacher interviews, and school, district, and state education department records		between teachers and students, which disengaged students from learning so that they would no longer have to comply to the untenable school standards.
Seaton (2007) *"If teachers are good to you": Caring for rural girls in the classroom*	U.S.A.	Type: Qualitative Participants: 8 female adolescents attending a rural middle school Design: Longitudinal (over the course of a schoolyear) Data: Observations of the female adolescents' daily activities, teacher interviews and student focus groups	Personal and student identity; No particular theoretical perspective identity development is mentioned	It was found that when teachers enter the classroom with ideas about how their students will act or behave, the may no longer be open to improved student behavior, or they may not be able to recognize this as such. Consequently, students sometimes felt they had to hide their identities in school.
Smith (2008) *Becoming an "honours student": The interplay of literacies and identities in a high-track class*	U.S.A.	Type: Qualitative Participants: A 9th grade classroom of students who were selected for an honors program Design: Longitudinal (over the course of a schoolyear) Data: Classroom	Student identity; No particular theoretical perspective identity development is mentioned	The results suggested that when teachers express high expectations towards honor students by explicitly mentioning that they are expected to work harder, do more and show more integrity than other students, some students might identify with this available social position of an honors student. However, other honors students

		observations, student interviews and student focus groups		appeared to distance themselves from these (in their experience) extremely high expectations, which made them quit the honors class.
Steele (1997) *A Threat in the Air. How Stereotypes Shape Intellectual Identity and Performance*	n/a	Type: Theoretical	Learner identity; No particular theoretical perspective on identity development is mentioned	It is argued that African-American students feel that their teachers have lower expectations of them than of other students, which may frustrate their identification with school.
Vetter (2010) *Positioning students as readers and writers through talk in a high school English classroom*	U.S.A.	Type: Qualitative Participants: An 11th grade English classroom at an urban high school Design: Longitudinal (over the course of five months) Data: Classroom observations, student interviews and teacher interviews	Literacy identity; Sociocultural perspective	The analysis indicated that teachers can, by positioning themselves as 'merely' facilitators and by posing playful, unofficial questions, position students as engaged class participants. The only social position that a teacher makes available by doing this, is the one of an engaged literacy student, which informed the way students positioned themselves in class.

Wortham (2006) *Learning identity: The joint emergence of social identification and academic learning*	U.S.A.	Type: Qualitative Participants: A 9th grade classroom Design: Longitudinal (over the course of several months) Data: Classroom observations	Learner identity; Sociocultural perspective	Wortham demonstrated that many acts of academic learning are simultaneously acts of social identification, especially when it comes to participant examples as a form of personalized pedagogy. When teachers repetitively assign certain students -from non-dominant cultural backgrounds- negatively evaluated social positions in participant examples (like the position of a slave, or of a beast), while assigning positively evaluated social positions in participant examples to other students, this may help to limit the social positions that are available to students.

Table 6 The role of peer norms in the identity development of adolescents

Study	Country	Methodology	Identity dimension(s); Theoretical framework	Most important findings
Charland (2010) *African-American youth and the artist's identity: Cultural models and aspirational foreclosure*	U.S.A.	Type: Qualitative Participants: 58 African-American students in art classes of four urban high schools Design: Cross-sectional Data: Student interviews and student focus groups	Artist identity; Psychosocial perspective	The results indicated that when, among students, a negative evaluation of enjoying art emerges (which was seen as something for 'nerds' or 'sissies'), this may discourage students to identify with and explore their artist identity.
Fields and Enyedy (2013) *Picking up the mantle of "Expert": Assigned roles, assertion of identity, and peer recognition within a program-ming class*	U.S.A.	Type: Qualitative Participants: 2 students of 11 years old who were skilled in programming, and their year groups Design: Longitudinal (over the course of several months) Data: Classroom observations, observations at the students' homes, observations at the students' programming club, student interviews, student questionnaires and focus groups with the two students	Student identity; Sociocultural perspective	The analysis suggested that once a student has adopted a specific position within his/her classroom, resistance may occur in the classroom when that student (possibly with the help of the teacher) tries to take up a different role or position. For example, one of the research participants was known for his sarcasm, which was generally interpreted to be mean. This made it difficult for this student to, even in a new learning context (namely a programming class) take up the social position of an attentive expert.

		and the students in their collaboration groups		
Fletcher et al. (2009) *Cannabis use and 'safe' identities in an inner-city school risk environment*	U.K.	Type: Qualitative Participants: 14 10th grade students who attended a school in London with an economically and socially disadvantaged catchment area Design: Longitudinal (over the course of a schoolyear) Data: Classroom observations, student interviews and teacher interviews	Student identity; No particular theoretical perspective identity development is mentioned	This study demonstrated that at a school where a lot of violence is present, it can be more 'safe' for students to not explore the social position of a good student if this would mean that they would no longer be protected (but threatened instead) by the most popular and therefore safest group of students within that school.
Hall (2010) *The negative consequences of becoming a good reader: identity theory as a lens for understanding struggling readers, teachers, and reading instruction*	U.S.A.	Type: Qualitative Participants: 3 pairs of middle school teachers and students with reading difficulties Design: Longitudinal (over the course of a schoolyear) Data: Classroom observations, student questionnaires, teacher questionnaires, student interviews and teacher	Reader identity; Sociocultural perspective	When, within a classroom, the (perceived) norm prevails that it is alright to mock people who do not know the answer to a question or who make mistakes during reading assignments, this may limit the access of students to the social position of someone who is becoming a better reader. Because of this norm, students may prefer to stay invisible (because not participating) bad readers, rather than to show that they are not good at reading yet and to try to improve their reading skills. This may

		interviews		happen even when the social position of becoming a good reader is promoted by the teacher.
Hall et al. (2010) *Teacher identity in the context of literacy teaching: Three explorations of classroom positioning and interaction in secondary schools*	U.S.A.	Type: Qualitative Participants: 3 pairs of middle school teachers and students with reading difficulties Design: Longitudinal (over the course of a schoolyear) Data: Classroom observations, student questionnaires, teacher questionnaires, student interviews and teacher interviews	Reader identity; Sociocultural perspective	When, within a classroom, the (perceived) norm prevails that it is alright to mock people who do not know the answer to a question or who make mistakes during reading assignments, this may limit the access of students to the social position of someone who is becoming a better reader. Because of this norm, students may prefer to stay invisible (because not participating) bad readers, rather than to show that they are not good at reading yet and to try to improve their reading skills. This may happen even when the social position of becoming a good reader is promoted by the teacher.
Ideland and Malmberg (2012) *Body talk: Students' identity construction while discussing a socioscientific issue*	Sweden	Type: Qualitative Participants: 20 students of whom half attended an urban school Design: Cross-sectional Data: Observations of four sex-segregated focus groups on health and the body	Student identity; Sociocultural perspective	This study showed that differences may occur across schools in the social positions that are made (un)available through peer norms. At the non-urban school, the social position of misbehaving students was only accessible to boys, whereas the girls pressured each other into behaving like good students. However, the opposite applied to the urban school, where girls

				could lose their credibility among their friends when they positioned themselves as good students.
Johnson et al. (2011) *Authoring identity amidst the treacherous terrain of science: A multiracial feminist examination of the journeys of three women of color in science*	U.S.A.	Type: Qualitative Participants: 3 women with non-dominant cultural backgrounds who built a career in the field of science Design: Cross-sectional Data: Interviews with two of the research participants and a report of the third participant	Science identity; Sociocultural perspective	The study showed how a student who finds it meaningful to study science, was held back in engaging in her science classes, because the prevailing norm among her friends is that science is for nerds.
Marcouyeux and Fleury-Bahi (2011) *Place-identity in a school setting: Effects of the place image*	France	Type: Quantitative Participants: 542 students between 15 and 17 years old Design: Cross-sectional Data: Student surveys	School identity; Social psychological perspective	The more positive the school's perceived image was, the more likely students were to identify with school and learning.

Vetter et al. (2011) *'Crazyghettosmart': A case study in Latina identities*	U.S.A.	Type: Qualitative Participant: 1 Latina student at an urban high school Design: Longitudinal (during the first two years of high school) Data: School observations, student interviews and interviews with the student's mother	Student identity; Sociocultural perspective	The study showed that when a student finds it meaningful to go to school and to learn, but the prevailing norm among her friends is that it is not 'cool' to make an effort for school, this may encourage this student to be loud during her classes or to try to be funny. In doing so, the student appeared to succesfully negotiate the possibility to both be smart and crazyghetto.
Volman and Ten Dam (2007) *Learning and the development of social identities in the subjects care and technology*	The Netherlands	Type: Qualitative Participants: 22 teachers that either taught Care or Technology, and 23 students from the 7th and 8th grade Design: Cross-sectional Data: Classroom observations, student interviews and teacher	Social identity; Sociocultural perspective	The results suggested that explicit curriculum goals with respect to students' identity development may be undermined by peer norms. Despite the fact that the courses Care and Technology were introduced to decrease gender stereotypes, adolescents kept confirming these stereotypes amongst each other, which particularly appeared to hinder the identification with Care amongst male

		interviews		students, and the identification with Technology amongst female students.
Wilmot (2014) *"Coconuts" and the middle-class identity change and the emergence of a new prestigious English variety in South Africa*	South Africa	Type: Mixed-methods Participants: 24 students between 16 and 18 years old who attend a middle class girls' school Design: Cross-sectional Data: Sociolinguistic student interviews	Social identity; No particular theoretical perspective identity development is mentioned	Students who are isiXhosa mother tongue speakers and adopted a prestigious type of English that was taught in their middle-class schools were sometimes mocked by peers attending working class schools. Nevertheless, the students attending the middle class schools chose to focus on the access that their variety of English would give them to a Western and middle-class culture, and hence identified with the prestigious type of English that was associated with being middle-class.

Table 7 The role of in-breadth explorative learning experiences in the identity development of adolescents

Study	Country	Methodology	Identity dimension(s); Theoretical framework	Most important findings
Barrett and Baker (2012) *Developing learning identities in and through music: A case study of the outcomes of a music programme in an Australian juvenile detention centre*	Australia	Type: Qualitative Participants: A group of 22 adolescents in a juvenile detention center who voluntarily participated in an one year lasting music program Design: Longitudinal (over the course of a year) Data: Class observations, student interviews, teacher interviews, and interviews with the principal and program manager	Personal and learner identity; Sociocultural perspective	The music program, that focused on the informal development of vocal and instrumental skills, invited participants to explore new talents, interests and sides of themselves. In doing so, the program made new social positions available in relation to which adolescents developed their personal self-understandings and their self-understandings as learners. The authors conclude that through this program, the participants were able to redefine a self that did not revolve around criminal activity.
Brickhouse (2001) *Embodying science: A feminist perspective on learning*	N/a	Type: Theoretical	Science identity; Sociocultural perspective	It is argued that in stimulating the development of science identities it is important to provide students with the opportunity to try out different social positions.
Bruin and Ohna (2013) *Alternative courses*	Norway	Type: Qualitative Participants: 8 students attending upper secondary	Learner identity; No particular theoretical perspective identity	The alternative education program provided students an opportunity to develop practical skills related to future working life. The

in upper secondary vocational education and training: Students' narratives on hopes and failures		education who, because of their risk of dropping out, participate in an alternative education program Design: Cross-sectional Data: Student interviews	development is mentioned	results demonstrated that the participants experienced this education program to be more meaningful than their regular education offered at school. The alternative program enabled them "to discover and nourish hidden talents and interests and new sides of themselves and to experience how feeling able builds self-confidence and supports learning" (p. 1100). This was reflected in the respondents' self-understandings as a learner as conveyed in the interviews.
Carlone et al. (2015) *'Unthinkable' selves: Identity boundary work in a summer field ecology enrichment program for diverse youth*	U.S.A.	Type: Qualitative Participants: A group of 16 promising students who did not have science-related hobbies went on a four week lasting summer camp on herpetology Design: Longitudinal (throughout the summer camp) Data: Summer camp observations and student interviews	Herpetology identity; Sociocultural perspective	The analysis suggested that the hands-on and on-site introduction to reptiles and amphibians (for example by observing frogs or by attending herpetology lectures in the field), may open a new world to adolescents that they can explore and that they may possibly identify with. Additionally, the authors stress the importance of allowing adolescents to explore new social positions on their own pace to prevent them from not wanting to explore new social positions at all. In the summer program that they studied, students were, for example, allowed to decide whether they (at least initially) merely

				wanted to observe the reptiles and amphibians from a distance, or whether they wanted to physically work with them right away.
Johnson et al. (2011) *Authoring identity amidst the treacherous terrain of science: A multiracial feminist examination of the journeys of three women of color in science*	U.S.A.	Type: Qualitative Participants: 3 women with non-dominant cultural backgrounds who built a career in the field of science Design: Cross-sectional Data: Interviews with two of the research participants and a report of the third participant	Science identity; Sociocultural perspective	Through extracurricular science programs the research participants were introduced to aspects of science that were different from those at school. Whereas they did not identify as much with the latter aspects of science, they did identify with the former aspects of science and came to find that they wanted to explore these further.
Jones and Deutsch (2013) *Social and identity development in an after-school program: Changing experiences and shifting adolescent needs*	U.S.A.	Type: Qualitative Participants: 17 adolescents who participated in an afterschool club of whom 15 have an African-American background Design: Longitudinal (over the course of a year) Data: Club observations and two student interviews per adolescent	Personal and learner identity; No particular theoretical perspective identity development is mentioned	The results suggested that the hands-on and on-site introduction to people and places that are related to future education programs and professions (for example through attending a lecture at a college, or through voluntary work), may open a new world to adolescents that they may identify with and that they may want to explore. This appeared to support adolescents in developing a crystalized and clear sense of self.

Squire (2006) *From content to context: Videogames as designed experience*	N/a	Type: Theoretical	Personal identity; No specific theoretical approach of identity development is mentioned	It is argued that students can gain initial experience with a certain profession or role through simulation games, that are argued to invite adolescents to explore new social positions.
Stapleton (2015) *Environmental identity development through social interactions, action, and recognition*	U.S.A.; South Asia	Type: Qualitative Participants: A group of 13 diverse American adolescents between 15 and 17 years old who participated in a four week lasting summer camp in South Asia Design: Longitudinal Data: Student interviews 3 through 6 months after the summer camp	Environmental identity; Sociocultural approach	The results suggested that the hands-on and on-site introduction to people and places that are related to climate change (for example through attending lectures on the topic, through visiting areas that are affected by climate change, or through studying the matter), may make adolescents more aware of environmental issues and their role in it. This appeared to inform adolescents' behaviors and environmental self-understandings.
Stokes and Wyn (2007) *Constructing identities and making careers: young people's perspectives on work and learning*	N/a	Type: Theoretical	Vocational identity; No particular theoretical approach of identity development is mentioned	It is argued that the hands-on introduction to various professions may foster the development of adolescents' vocational identities. This hands-on introduction is, to a certain extent, already facilitated in vocational education programs, but can be stimulated further by relating students' out-of-school work experiences more to the learning contents and activities at school.

Van Sluys (2010) *Trying on and trying out: Participatory action research as a tool for literacy and identity work in middle grades classrooms*	U.S.A.	Type: Qualitative Participants: 6 students between 14 and 15 years old with a non-dominant cultural background Design: Longitudinal (over the course of a schoolyear) Data: Observations of the students' research activities and student reports	Learner identity; Sociocultural perspective	The students voluntarily helped the researcher in her study on a parent project where parents were asked to participate in school practices to better understand the practices their children are involved in. The role of the students was to observe the parent meetings. In helping out the researcher, the students' unique talents were valued and recognized. For example, one student preferred drawing over writing during the field work, and allowing him to do so changed his identification as a resistant student to one who could use his affinity for drawing to collective academic work. "Claiming a successful student identity was something learners could do in this project once they understood different and more complex ways to define success. For these students, the project created a space in their school lives to try on and try out new ways of being while working with research colleagues" (p. 149).

Table 8 The role of in-depth explorative learning experiences in the identity development of adolescents

Study	Country	Methodology	Identity dimension(s); Theoretical framework	Most important findings
Adams et al. (2014) *Long-term participants: A museum program enhances girls' STEM interest, motivation, and persistence*	U.S.A.	Type: Qualitative Participants: 8 female alumni of an extracurricular science program and their teachers. The alumni had a non-dominant cultural background Design: Cross-sectional Data: Alumni focus group and interviews, and teacher interviews	Science identity; No particular theoretical approach of identity development is mentioned	The science program, that mainly focuses on groups that are underrepresented in science, comprised "hands-on activities, scientist talks, visits to the museum's behind-the-scenes research labs and collections, and field trips [...] Program staff choose research topics that span the museum's areas of expertise and are broad enough to give youth flexibility in what they investigate" (p. 15). The analysis suggested that in this setting, adolescents were enabled to further specify their science interests, which appeared to inform their science identities.
Farland-Smith (2012) *Personal and social interactions between young girls and scientists: Examining critical aspects for identity*	U.S.A.	Type: Qualitative Participants: 50 girls who participated in a week lasting summer program on science Design: Longitudinal (over the course of a summer in which the program was offered multiple times) Data: Program observations,	Science identity; Sociocultural perspective	The study's findings indicated that the interaction with both male and female professionals from various disciplines within the science field (like ecologists, aquatic ecologists and physical anthropologists) may help adolescents to vividly imagine how they could become valuable members of a science community.

construction		student questionnaires, and student logs		
Furman and Calabrese Barton (2006) *Capturing urban student voices in the creation of a science mini-documentary*	U.S.A.	Type: Qualitative Participants: 2 students of about 13 years old with a lower socio-economic status. The students participated in an extracurricular science program Design: Longitudinal (over the course of a semester) Data: Program observations, science classroom observations at school, student interviews and student assignments	Science identity; Sociocultural perspective	In the program, students were asked to create a documentary on science. It was up to the students, though, what the documentary would be about. The results indicated that this assignment allowed the students to explore the social position of a science expert: It provided them with the opportunity to position themselves as people who are knowledgeable when it comes to science.
Gilmartin et al. (2007) *Gender ratios in high school science departments: The effect of percent female faculty on multiple dimensions of students' science*	U.S.A.	Type: Mixed-methods Participants: 1138 students of approximately 16 years old participated in the survey. In addition, 23 students who attended the school with the lowest percentage of female science teachers were interviewed, and 36 students who attended the school with	Science identity; Combined theoretical perspectives on identity development (e.g., Holland et al. 1998; Tajfel 1981)	The analysis demonstrated that the percentage of female science teachers at a school is not significantly related to the perceived expectations that teachers have of their students, the extent to which students think of themselves as good at science, the engagement of students in science classes, the aspirations students may have to study science in college, and the science-related stereotypes of students. According to the

identities		the highest percentage of female science teachers were interviewed Design: Cross-sectional Data: Student surveys and student interviews		authors, these results may be explained by students' idea that female science teachers generally do not have real-life science experience apart from teaching. This assumption among students appeared to prevail when it came to male teachers too.
Hughes et al. (2013) *The single sex debate for girls in science: A comparison between two informal science programs on middle school students' STEM identity formation*	U.S.A.	Type: Mixed-methods Participants: The study focused on two STEM summer programs, of which one is gender-segregated (only girls attended this program), whereas the other was not. The students were between 10 and 15 years old Design: Longitudinal (over the course of the one or two week lasting summer programs) Data: Student surveys that were filled in before the summer programs, student application forms, program observations, and student and teacher interviews that were held after the programs had ended	STEM identity; Combined theoretical perspectives on identity development (e.g., Eccles 2007; Wenger 1998)	The results suggested that the on-site interaction with women from various disciplines within the STEM field (like vets or marine biologists) may support female students' STEM identity development. Such experiences were found to stimulate the in-depth exploration of students' STEM identities by inviting them to vividly imagine their possible futures in the STEM field, but also by inviting them to reassess their prejudices with regard to the STEM field. For example, during the programs, the girls found that in a marine biology lab more women than men were employed. What is more, the people who worked in this lab turned out to be 'normal and social'. In addition, the girls learned from a female vet that although she was told as a kid that she was not good at mathematics, she later found out that this was not true, which allowed her to still become what she

				wanted to become.
Jones and Deutsch (2013) *Social and identity development in an after-school program: Changing experiences and shifting adolescent needs*	U.S.A.	Type: Qualitative Participants: The adolescents and personnel that was involved in an after school club Design: Longitudinal (over the course of one year) Data: After school club observations, and seventeen interviews with adolescents who attended the after school club	Personal and learner identity; No particular theoretical perspective identity development is mentioned	One of the programs that was offered by the after school club focused on preparing youth for college life. In this program, adolescents were helped in making college- and profession-related decisions. In field trips, they visited some state colleges. The findings indicated that the interaction with college students introduced the adolescents to new role models, which appeared to inform adolescents' personal self-understandings and their self-understandings as learners.
Kendrick et al. (2013) *Integrated literacies in a rural Kenyan girls' secondary school journalism club*	Kenya	Type: Qualitative Participants: 32 students with a low socio-economic status who participated in an extracurricular journalism club of a girls' school; the journalism club's teacher Design: Longitudinal (over the course of one year) Data: Club observations, student and teacher interviews, student	Vocational identity; No specific theoretical approach of identity development is mentioned	In this school club, students were provided with 'real' resources, among which a digital camera, a voice recorder, laptops, and a subscription to a newspaper. These resources allowed the club members to participate in authentic journalism practices (for example interviewing someone with a voice recorder and typing an article on it for a newspaper), which appeared to support adolescents in picturing what the life of a journalist looks like. This study indicated that authentic tools may make certain social

		questionnaires, and student assignments		positions more easily imaginable to adolescents, which could facilitate their in-depth identity exploration.
Liu and Hanafin (2010) *Exploring student identity in an intercultural web-assisted scientific inquiry project*	China; U.S.A.	Type: Mixed-methods Participants: Students of a Chinese (*N= 14*) and an American (*N = 7*) middle school who participated in an extracurricular science program Design: Longitudinal (over the course of the eight months lasting program) Data: Program observations, online student discussions, student surveys, student interviews and student assignments	Science identity; Sociocultural perspective	The students participated in a program on Global Warming and Transportation during weekly two-hour after-school sessions. The project offered online resources for research, hands-on scientific inquiry activities and intercultural exchanges. Students worked on the same project at both sites. Each activity aimed to improve inquiry, reading, writing, and communication skills. Students worked on a given topic for a period of about three to four weeks. The program provided students who already demonstrated an interest in science with the opportunity explore various subfields within the field of science.
Luehmann (2009) *Accessing resources for identity development by urban students and teachers: foregrounding*	N/a	Type: Theoretical	Learner identity; Sociocultural perspective	It is argued that by providing students with authentic learning experiences (for example by means of instruments or resources that are also used by professionals) the development of adolescents' already present self-understandings as learners may be fostered

context				
Polman (2010) *The zone of proximal identity development in apprenticeship learning*	U.S.A.	Type: Qualitative Participants: 17 students with a non-dominant cultural background who participated in an extracurricular science summer program that aimed to ignite an interest for science related professions Design*:* Longitudinal (over the course of the eight weeks lasting summer program) Data: Program observations, two interviews with eight teachers, fourteen student interviews and student assignments	Science identity; Sociocultural perspective	During the summer program students worked in the science field fulltime. Because the program offered a wide variety of activities, the students were enabled to, based on their already present interests and talents, explore new interests and talents. For example, one student "began to link her identification as a tinkerer to engineering, and combined this with her identification as a potential chemist, to formulate her identification as an intended chemical engineer" (p. 143).
Polman and Hope (2014) *Science news stories as boundary objects affecting engagement with science*	U.S.A.	Type: Qualitative Participants: 16 students who participated in an extracurricular science program that focused on science journalism Design: Longitudinal (over the course of two years)	Science identity; Sociocultural perspective	In this program students wrote science news stories that they submitted to a regional science newspaper, where their news stories were reviewed by an editor. This provided students with the opportunity to try out the position of a science journalist.

		Data: Program observations, student interviews with some of the students, and student assignments		
Polman and Miller (2010) *Changing Stories: Trajectories of Identification Among African American Youth in a Science Outreach Apprenticeship*	U.S.A.	Type: Qualitative Participants: 17 students with a non-dominant cultural background who participated in an extracurricular science summer program that aimed to ignite an interest for science related professions Design: Longitudinal (over the course of the eight weeks lasting summer program) Data: Program observations, two interviews with eight teachers, fourteen student interviews and student assignments	Science and vocational identity; Sociocultural perspective	During the summer program students worked in the science field fulltime. Because the program offered a wide variety of activities, the students were enabled to position themselves and be positioned by others in various ways with respect to science.
Rahm et al. (2014) *Youth voice and positive identity-building practices: The case of ScienceGirls*	Canada	Type: Qualitative Participants: Students between 10 and 14 years old who participated in an extracurricular science program for girls Design: Longitudinal (over	Science identity; Sociocultural perspective	The program introduced the students to various science-related activities, among which writing for a scientific newsletter was to be found (this is the activity this study focuses on). In this way, the program allowed students to further explore their already present identifications with science,

		the course of two years) Data: Program observations, student interviews, teacher interviews, student focus groups, and student assignments		which, for example, made students aware that science comprises more than merely the hard sciences. Students "found ways to navigate the program that reinforced dimensions of themselves they were keen on developing further. Participation over time also helped them test out and play with identities that were not necessarily accessible to them elsewhere" (p. 20).
Rudd (2012) *Just "slammin!" adolescents' construction of identity through performance poetry*	U.S.A.	Type: Qualitative Participants: Members of a slam poetry group Design: Longitudinal (over the course of two years) Data: Group session observations, student interviews with five students, and coach interviews	Literacy identity; Sociocultural perspective	The study indicated that by performing at open mic nights students could experience what it was like to publicly perform as a poet and to be recognized as such.
Russ et al. (2015) *Development of ecological place meaning in New York city*	U.S.A.	Type: Qualitative Participants: 9 teachers and 5 students of an extracurricular ecology summer program Design: Longitudinal (over the course of the six week lasting summer program) Data: three interviews with each of the students and	Ecological identity; No particular theoretical perspective on identity development is mentioned	During the program students participated in hands-on and on-site activities like environmental restoration, maintaining community, and environmental monitoring. Also, students attended indoor classes on the urban environment. The analysis suggests that the program stimulated the adolescents to think of themselves as capable of making environmental change.

		teachers		Moreover, it helped the adolescents to be recognized as environmental leaders by people from their neighborhood, which appeared to inform adolescents' environmental self-understandings.
Whiting (2006) *From at risk to at promise: Developing a scholar identity among Black male adolescents*	N/a	Type: Theoretical	Scholar identity; Combined theoretical perspectives on identity development (e.g., Bandura 1977; Dweck 1999)	It is argued that the development of African-American male adolescents' scholar identities may be fostered by providing them with role models (both in real life and through literature) in which they can recognize themselves.

Table 9 The role of reflective explorative learning experiences in the identity development of adolescents

Study	Country	Methodology	Identity dimension(s); Theoretical framework	Most important findings
Choi (2009) *Asian English language learners' identity construction in an after school literacy site*	U.S.A.	Type: Qualitative Participants: 4 Asian English Language Learners who attended an American high school. The students participated in an extracurricular reading club Design: Longitudinal (the exact period is unknown) Data: Student interviews and online discussions among the students	Social and learner identity; Sociocultural perspective	By providing students with novels on main characters and contexts that students may identify with (in this instance, with Asian main characters who live in other continents), and by combining these with discussions of the novels, students may explore what their priorities are. For example, during the reading club, the students discussed how the priorities of family, work and education relate to each other, and how these priorities may be ordered.
Hall (2007) *Poetic expressions: Students of color express resiliency through metaphors and similes*	U.S.A.	Type: Qualitative Participants: 3 male adolescents between 16 and 17 years old who had a non-dominant cultural background. The adolescents participated in an extracurricular City School Outreach program Design: Cross-sectional Data: Program observations,	Personal and social identity; No particular theoretical approach of identity development is mentioned	The City School Outreach program focused on offering students a safe environment to talk about their problems. One of the topics discussed concerned stereotypical images of people of color in society and in mass media: "As students [...] engaged in group dialogue, it was apparent that this activity enabled them to discuss and analyze, in their own language, existing sociopolitical inequities that they openly regarded as problematic. In a subsequent meeting, [the

		student interviews and student assignments		author] asked the boys to bring a self-composed piece that artistically conveyed their feelings on the subject. They could express themselves in any writing genre in which they felt comfortable"(p. 223). The results suggested that these meetings helped the students to reflect on the role of societal processes in their identity development. Also, due to their new knowledge of and perspectives on social inequalities, students felt more resilient which was found to foster their personal identity development.
Hardee and Reyelt (2009) *Women's well-being initiative: Creating, practicing, and sharing a border pedagogy for youth*	U.S.A.	Type: Qualitative Participants: 2 groups of approximately 10 adolescents, of which one group participated in an art program for adolescents in a juvenile arbitration program, whereas the other group was characterized by adolescents who experienced academic difficulties. Most adolescents had a low socio-economic status and a non-dominant cultural background Design: Longitudinal (the	Personal identity; No particular theoretical approach of identity development is mentioned	In the art programs, students were challenged -by means of theater, writing and other creative assignments- to critically reflect upon dominant ideologies and power relations. The analysis indicated that these programs helped students to reflect on the role of societal processes in their identity development. Additionally, due to their new knowledge of and perspective on social inequalities, students felt more resilient which appeared to foster their personal identity development.

		exact period is unknown) Data: Art program observations and student interviews		
Harrell-Levy and Kerpelman (2010) *Identity Process and Transformative Pedagogy: Teachers as Agents of Identity Formation*	N/a	Type: Theoretical	Personal identity; Combined theoretical perspectives on identity development (e.g., Erikson 1968; Schwartz 2001)	It is argued that teachers can best foster adolescents' identity development by providing them with meaningful learning experiences and by inviting them to critically reflect upon their prevailing ideas and assumptions. This stimulates adolescents to critically assess their already present identifications and to explore alternative identifications.
Henfield (2012) *Masculinity identity development and its relevance to supporting talented black males*	N/a	Type: Theoretical	Learner identity; A phenomenological approach that shares close similarities with the sociocultural perspective	It is argued that the development of African-American male adolescents' learner identities can be fostered by teachers when they acknowledge that the stereotypical social role of an African-American man may conflict with the stereotypical social role of a talented student. Such an acknowledgement may make African-American male adolescents more resilient in the development of their learner identities.

Ligorio (2010) *Dialogical relationship between identity and learning*	N/a	Type: Theoretical	Personal identity; Combined theoretical perspectives on identity development (e.g., Hermans et al. 1992; Wenger 1998)	It is argued that by inviting students, in their educational activities, to think more consciously about their own feelings, perspectives and thoughts, they may come to understand themselves better. This is argued to foster their identity development.
Muhammad (2012) *Creating spaces for black adolescent girls to "write it out!"*	U.S.A.	Type: Qualitative Participant: A 16 year old African-American female who participated in a writing summer program for students with non-dominant cultural backgrounds. Design: Longitudinal (over the course of five weeks) Data: Student interview and student assignments	Personal identity; No particular theoretical approach of identity development is mentioned	In the program, the student reads books on, among other things, identity and resiliency, and was asked to write on these issues openly and without apology. The results suggested that these assignments allowed the student to reflect upon her multiple identities and made the student realize how little space she experienced at school for her cultural and personal identity, which appeared to make her more resilient.
Rogers et al. (2007) *Studying the struggle: Contexts for learning and identity development for urban youth*	U.S.A.	Type: Qualitative Participants: 25 urban youth between 16 and 17 years old who participated in a summer program on educational activism Design: Longitudinal (over the course of the five week lasting summer program) Data: Summer program	Personal identity; Sociocultural perspective	During the summer program, students engaged in college-level reading and writing while getting familiar with social theory and social research that allowed the students to critically reflect upon the social conditions in their schools and communities. The analysis indicated that this could help students to better understand who they are and how they could contribute

		observations and student assignments		to society.
Rossiter (2007) *Education in identity*	N/a	Type: Theoretical	Personal identity; No specific theoretical perspective on identity development is mentioned	It is argued that reflective explorative learning experiences are important because they foster adolescents' understanding of how their identity development is influenced by their context. This is thought to help adolescents find an appropriate balance between societal and personal desires and expectations regarding their own identity development.
Sinai et al. (2012) *Promoting identity exploration within the school curriculum: A design-based study in a junior high literature lesson in Israel*	Israel	Type: Qualitative Participants: Students of two literature classes and the classes' teacher Design: Cross-sectional Data: Classroom observations, student assignments, reflective student reports and student focus groups	Personal identity; Psychosocial perspective	The analysis suggested that collectively reading and discussing a poem on someone's youth, combined with individual assignments in which students, for example, had to complete the phrase taken from the poem's title: ''My Childhood was. . .?'', or to replace all the poem's adjectives, may help some students to reflect upon who they are and want to be.
Ten Dam et al. (2004) *Making sense through*	The Netherlands	Type: Theoretical	Technological and care identity; Sociocultural perspective	When students first enter a class, they might already have ideas on the extent to which they (for example as girls, boys, students with a non-dominant cultural

participation: Social differences in learning and identity development				background, or students with a lower socio-economic status) would be able to identify with the class. It is argued that by reflecting on these assumptions in class discussions, these assumptions may be contested and students might be left with a wider range of social positions to identify with.
Vianna and Stetsenko (2011) *Connecting learning and identity development through a transformative activist stance: Application in adolescent development in a child welfare program*	U.S.A.	Type: Qualitative Participant: A male adolescent who lived in a group home. The first author was employed as a psychologist in the group home Design: Longitudinal (over the course of three years) Data: Participant interviews and observations, and documents collected through participatory observation	Personal identity; Sociocultural perspective	The boy was not content with the education he received, because he experienced it as authoritarian and not meaningful. As a response, the first author provided him with a book of Freire on educational inequality, and the author challenged the student to critically reflect upon both the context's and his own role in his current education. The results suggested that this allowed the boy to understand his own educational experiences in light of societal trends. This appeared to have fostered the boy’s understanding of who he was and how he could contribute to society. The assignment appeared to have helped the boy to develop a meaningful life agenda that, in his case, concerned the contribution to a more fair U.S.A. by working as a prosecutor.

Table 10 The role of meaningful learning experiences in the identity development of adolescents

Study	Country	Methodology	Identity dimension(s); Theoretical framework	Most important findings
Basu et al. (2009) *Developing a framework for critical science agency through case study in a conceptual physics context*	U.S.A.	Type: Qualitative Participants: A 9th grade science class Design: Longitudinal (over the course of a schoolyear) Data: Teacher logs, student interviews, parent interviews and student assignments	Science identity; Sociocultural perspective	One student was invited by her teacher to co-design a lesson for their physics class, which allowed the student to develop critical science agency not only in organizing the lesson for her own fellow students, but also in the improvement of the lesson for next year's ninth grade students. The other student was allowed to develop critical science agency by being provided with curricular and extracurricular space to expand his knowledge and skills regarding robotics. The authors argue that because these agentic actions relate to the students' future goals of respectively becoming a lawyer, and developing a career in science, they appeared to allow for the development of these student researchers' science identities.
Black et al. (2010) *Developing a "leading identity": The relationship between students'*	England	Type: Qualitative Participants: 2 students who took post compulsory mathematics Design: Longitudinal (over	Mathematics identity; Sociocultural perspective	The analysis indicated that students are more inclined to identify with mathematics when they get introduced to mathematics as something they can use in daily life or in

mathematical identities and their career and higher education aspirations		the course of two years) Data: Three interviews per student		their future careers.
Brickhouse et al. (2000) *What kind of a girl does science? The construction of school science identities*	U.S.A.	Type: Qualitative Participants: 4 African-American working class girls Design: Longitudinal (over the course of eighteen months during grade 7 and 8) Data: Student logs, classroom observations, student focus groups, student interviews, teacher interviews and parent interviews	Science identity; Combined theoretical perspectives on identity development (e.g., Lave, 1998; Lloyd & Duveen, 1992)	The results suggested that the organization of meaningful learning experiences fosters the development of positive science identities. It was found that science-related learning experiences are considered to be meaningful when references to popular culture are made and when students can relate their daily lives to what they learn in school. One student, for example, could relate the rodent problem she had at home to the science class.
Brickhouse (2001) *Embodying science: A feminist perspective on learning*	N/a	Type: Theoretical	Science identity; Sociocultural perspective	It is argued that in stimulating the development of science identities it is important to connect the learning content to the out-of-school science field.
Cobb et al. (2009) *An interpretive scheme for analyzing the identities that students develop in*	U.S.A.	Type: Qualitative Participants: 11 mathematics students who were taught both data analysis and algebra in their middle school	Mathematics identity; Combined theoretical perspectives on identity development (e.g., Boaler & Greeno 2000; Holland et	The study demonstrated that when, in class, there is room for discussion, personal input and students' creativity, a bridge may be built between students' already present personal identities and the roles that are

mathematics classrooms		Design: Longitudinal (over the course of fourteen weeks) Data: Classroom observations and student focus groups	al. 1998)	offered in their mathematics class. This is argued to foster students' identification with mathematics.
Cowie et al. (2011) *Re-engaging students in science: Issues of assessment, funds of knowledge and sites for learning*	N/a	Type: Theoretical	Science identity; Sociocultural perspective	It is argued that to foster the positive development of science identities it is important to build on students' funds of knowledge as a resource in class, so that students can bring who they are into the classroom which can enhance their science engagement.
Flum and Kaplan (2006) *Exploratory orientation as an educational goal*	N/a	Type: Theoretical	Personal identity; Psychosocial perspective	It is argued that teachers should stimulate self-reflection among students by stimulating them to examine how the learning content and activities relate to them personally. Also, it is argued that teachers should enter dialogues with students on the meaning of the things that are taught in school.
Freire et al. (2009) *Identity construction through schooling: listening to students' voices*	Portugal	Type: Qualitative Participants: 20 students who attended an urban school that presents high truancy, failure and dropout rates Design: Cross-sectional	Learner identity; Sociocultural perspective	The results suggested that when students do not experience space at school for their personal experiences and perspectives, this may cause them to disengage from their education because they would not find their education to be meaningful.

		Data: Student focus group		
Hazari et al. (2010) *Connecting high school physics experiences, outcome expectations, physics identity, and physics career choice: A gender study*	U.S.A.	Type: Quantitative Participants: 3829 college/university students who had taken high school physics Design: Cross-sectional Data: Student surveys	Physics identity; Combined theoretical perspectives on identity development (e.g., Bandura 1986; Marsh et al. 2002)	The study demonstrated that physics classes that address students' beliefs about the world, discuss the benefits of being a scientist, and discuss currently relevant science topics, increase the chance that students will positively identify with physics.
Higgins (2015) *Intersecting scapes and new millennium identities in language learning*	N/a	Type: Theoretical	Linguistic identity; No specific theoretical perspective on identity development is mentioned	It is argued that when, in language classes, multiple perspectives and social positions are appreciated, this does justice to the reality of diversity. Consequently, as many students as possible might be able to identify with the learning content and deem the learning content to be meaningful.
Lemke (2001) *Articulating communities: Sociocultural perspectives on science education*	N/a	Type: Theoretical	Science identity; Sociocultural perspective	It is argued that certain groups of students may experience difficulties in identifying with science, because a science identity is often associated with men and with very advanced technical skills in contemporary society, and that society should reconsider whether admission to the science field

				really is equally free to all.
Mittendorff et al. (2008) *Differences and similarities in the use of the portfolio and personal development plan for career guidance in various vocational schools in the Netherlands*	The Netherlands	Type: Qualitative Participants: Three case studies were performed, one of which concerned prevocational students who took a career guidance course Design: Cross-sectional Data: Interviews with students, teachers and career counselors	Personal and vocational identity; No specific theoretical perspective on identity development is mentioned	The students were asked to create portfolios to help them think about their future education and career. The analysis suggested that students did not use portfolios to reflect on their identity development, but rather to build up a cv. No career dialogues between teachers and students were held at school, which might explain why students in this school did not use their portfolios as a resource for their identity development; when it comes to students' identity development, the portfolios might not have been meaningful to them.
Mortimer et al. (2010) *Helping immigrants identify as "university-bound students": Unexpected difficulties in teaching the hidden curriculum*	U.S.A.	Type: Qualitative Participants: Immigrant students with a low socio-economic status who participate in an extracurricular university preparation program Design: Longitudinal (over the course of the program) Data: Program observations and interviews with students	Learner identity; Combined theoretical perspectives on identity development (e.g., Bourdieu and Passeron 1977; Wortham 2006)	The program aimed to help immigrant students to identify themselves as university-bound students. In this program "educators explicitly discussed the behaviors and attitudes of a university-bound student, hoping that the [students] would adopt this identity" (p. 114). Activities focused on "time management, study skills, the university search, character development and values" (p. 116). However, the results indicated that the

		and teachers		teachers failed to recognize that their students might interpret and appreciate the university bound behaviors and attitudes that they were taught about differently than the teachers themselves did. For example, the teachers stressed the importance of voluntary work to get admitted to a university, but they did not recognize that there may not have been any space in their students' daily lives for unpaid employment. In other words, the students did not experience the program to be meaningful, and therefore the program did not appear to foster the students' learner identity development.
Polman and Miller (2010) *Changing Stories: Trajectories of Identification Among African American Youth in a Science Outreach Apprenticeship*	U.S.A.	Type: Qualitative Participants: 17 students with a non-dominant cultural background who participated in an extracurricular science summer program that aimed to ignite an interest for science related professions Design*:* Longitudinal (over the course of the eight weeks lasting summer program) Data: Program observations,	Science and vocational identity; Sociocultural perspective	During the summer program students worked in the science field fulltime. The results indicated that because the program offered a wide variety of activities, a bridge could be built between students' already present identifications and the social positions that were made available to them in the program.

		two interviews with eight teachers, fourteen student interviews and student assignments		
Skerrett (2012) *"We hatched in this class": Repositioning of identity in and beyond a reading classroom*	U.S.A.	Type: Qualitative Participants: A 9th grade reading class. The study in particular focuses on one student and the teacher Design: Longitudinal (over the course of a schoolyear) Data: Three student interviews, several short teacher interviews, the teacher's e-mail correspondence, and classroom observations	Reader identity; Sociocultural perspective	The study demonstrated how the teacher appeared to help the student to claim her already present reader identity. Initially, the student did not understand herself to be a reader. Yet, this seemed to have changed when the teacher tried to make it clear to her that she is reading the entire day because reading also includes the reading of comics, Facebook posts or graffiti tags. By providing the student with a wide variety of media and positively valued social positions when it comes to reading, the teacher seemingly stimulated the student to identify with reading (which was now deemed by the student to be meaningful) and to further explore her reader identity.
Steele (1997) *A Threat in the Air. How Stereotypes Shape Intellectual Identity and Performance*	N/a	Type: Theoretical	Learner identity; No particular theoretical perspective on identity development is mentioned	It is argued that when students can bring their own experiences and perspectives to the classroom, space is offered for the appreciation of multiple perspectives and social positions, which allows a relatively large share of students to positively identify

				with what is taught.
Subramaniam et al. (2012) *Reimagining the role of school libraries in STEM education: Creating hybrid spaces for exploration*	N/a	Type: Theoretical	Science identity; Sociocultural perspective	It is argued that when students can bring their own experiences and perspectives to the science class, a bridge may be built between students' already present identifications and the social positions that are made available in their science class. This is argued to foster students' positive identification with science. The library, as a space for exploration, is argued to be able to facilitate this process.
Tan and Calabrese Barton (2007) *From peripheral to central, the story of Melaine's metamorphosis in an urban middle school science class*	U.S.A.	Type: Qualitative Participant: An 11 year-old girl who underperformed in her science class at the beginning of the schoolyear Design: Longitudinal (over the course of a schoolyear) Data: Classroom observations, student interviews, student focus groups and student assignments	Science identity; Sociocultural perspective	The results indicate that when teachers leave students space to perform ‘discursive agency’ (in this instance by encouraging the student to share her stories and to expand on her narratives, while linking it to the science content), this may foster their science identity development.

Thompson (2014) *Engaging girls' sociohistorical identities in science*	U.S.A.	Type: Qualitative Participants: 17 students with a non-dominant cultural background who participated in a science lunch program for girls Design: Longitudinal (over the course of two years) Data: Program observations (the program lasted four weeks), three interviews per student (of which one interview was held two years after the program had ended), and student focus groups	Science identity; Sociocultural perspective	During the program, students were involved in science-related discussions, but they also read science-related newspaper articles and attended lectures of people who worked in the science field. Students got to decide what theme would be discussed in the lunch program. The analysis suggested that because of this students felt more engaged in their science lunch program than in their regular science classes, which appeared to foster the positive identification with science among at least some of the lunch program participants.
Whiting (2006) *From at risk to at promise: Developing a scholar identity among Black male adolescents*	N/a	Type: Theoretical	Scholar identity; Combined theoretical perspectives on identity development (e.g., Bandura 1977; Dweck 1999)	It is argued that the development of African-American male adolescents' scholar identities may be fostered when they see themselves affirmed in the learning materials and content.

Table 11 The role of a supportive classroom climate in the identity development of adolescents

Study	Country	Methodology	Identity dimension(s); Theoretical framework	Most important findings
Archer et al. (2009) *"Boring and stressful" or "ideal" learning spaces? pupils' constructions of teaching and learning in Chinese supplementary schools*	U.K.	Type: Qualitative Participants: 6 Chinese schools that offered complementary education in after-school hours Design: Cross-sectional Data: Classroom observations and interviews with students, teachers and parents	Learner identity; Combined theoretical perspectives on identity development (e.g., Avis 2006; Lave and Wenger 1991)	The students reported that they experience to have less space in their regular education than in the Chinese schools to try out various social positions. This was explained by them by referring to the higher pressure in regular education to be a good student and to obtain good grades. The analysis indicated that the Chinese schools, more than the regular schools, offered students a social climate in which the students felt safe to explore the identification with various social positions.
Buxton (2005) *Creating a culture of academic success in an urban science and math magnet high school*	U.S.A.	Type: Qualitative Participants: Student and teachers at an urban magnet high school Design: Longitudinal (over the course of three years) Data: Classroom observations, interviews with teachers and other personnel, student assignments, and	Learner identity; Sociocultural perspective	The analysis suggested that creating a safe social climate does not mean that teachers should let students slide through because they are afraid to further damage at-risk students' self-esteem. Instead, based on the examination of how a successfully implemented common vision of academic success contributed to the development of adolescents' positive student identities, Buxton argued that self-esteem and a student identity should be developed in the

		school documents		process of pursuing real academic accomplishments.
Carlone et al. (2015) *'Unthinkable' selves: Identity boundary work in a summer field ecology enrichment program for diverse youth*	U.S.A.	Type: Qualitative Participants: A group of 16 promising students who did not have science-related hobbies went on a four week lasting summer camp on herpetology Design: Longitudinal (throughout the summer camp) Data: Summer camp observations and student interviews	Herpetology identity; Sociocultural perspective	The results suggested that inviting students to help each other and to support each other in the exploration of their herpetology identity, may help to create a social climate in which students actually feel safe enough to explore their herpetology identity.
Cummins et al. (2015) *Identity Texts and Academic Achievement: Connecting the Dots in Multilingual School Contexts*	N/a	Type: Theoretical	Personal and student identity; No specific theoretical perspective on identity development is mentioned	It is argued that in the creation and sharing of written, spoken, signed, visual, musical, and dramatic art products, students may receive positive feedback and affirmation of self, which may foster their personal and student identity development. This appears to be particularly important for marginalized students.

Fields and Enyedy (2013) *Picking up the mantle of "Expert": Assigned roles, assertion of identity, and peer recognition within a programming class*	U.S.A.	Type: Qualitative Participants: 2 students of 11 years old who were skilled in programming, and their year groups Design: Longitudinal (over the course of several months) Data: Classroom observations, observations at the students' homes, observations at the students' programming club, student interviews, student questionnaires and focus groups with the two students and the students in their collaboration groups	Student identity; Sociocultural perspective	The analysis suggested that once a student adopts a specific role within his/her classroom, some resistance may occur in the classroom when that student (possibly with the help of the teacher) tries to take up a different role or position. For example, one of the research participants was known for his sarcasm, which was generally interpreted to be mean. This appeared to make it difficult for this student to, even in a new learning context (namely a programming class) take up the social role of an attentive expert. It is argued that by making students aware of the fact that someone's role and attitude can differ across contexts, a social climate may occur in which students can safely try out various social roles.
Flum and Kaplan (2006) *Exploratory orientation as an educational goal*	N/a	Type: Theoretical	Personal identity; Psychosocial perspective	It is argued that a social climate that supports students' identity development is characterized by a learning environment in which students feel respected and accepted, in which teachers communicate their enthusiasm about learning, and in which students feel safe enough to take risks and make mistakes in exploring their identities.

Hamman and Hendricks (2005) *The role of the generations in identity formation: Erikson speaks to teachers of adolescents*	N/a	Type: Theoretical	Personal identity; Psychosocial perspective	It is argued that teacher compliments may contribute to a supportive social climate, because compliments make students feel valued and recognized for their abilities. This is thought to help students think about who and what they want to become. It is deemed to be important that, in this process, teachers leave students with enough space to try out various social positions. By accepting the student as a person, including his or her fluctuations and experimentation, his or her identity exploration will be fostered. However, the authors stressed that not all behavior should be tolerated.
Hardee and Reyelt (2009) *Women's well-being initiative: Creating, practicing, and sharing a border pedagogy for youth*	U.S.A.	Type: Qualitative Participants: 2 groups of approximately 10 adolescents, of which one group participated in an art program for adolescents in a juvenile arbitration program, whereas the other group was characterized by adolescents who experienced academic difficulties. Most adolescents had a low socio-economic	Personal identity; No particular theoretical approach of identity development is mentioned	The results indicated that showing students what they have in common by inviting them to openly discuss personal issues may contribute to a safe social climate that is characterized by a strong sense of community. In this study, for example, students were asked to create art pieces. Subsequently, they discussed their personal interpretations of the art that was made, which, in turn, made them see what experiences and views they shared. This made the students feel supported in the

		status and a non-dominant cultural background Design: Longitudinal (the exact period is unknown) Data: Art program observations and student interviews		exploration of their personal identity.
Harrell-Levy and Kerpelman (2010) *Identity Process and Transformative Pedagogy: Teachers as Agents of Identity Formation*	N/a	Type: Theoretical	Personal identity; Combined theoretical perspectives on identity development (e.g., Erikson 1968; Schwartz 2001)	It is argued that it is important to stimulate cooperation within classrooms. Only when students feel connected to and comfortable around each other, they can actively explore their identities while providing each other with constructive feedback.
Hazari et al. (2015) *Obscuring power structures in the physics classroom: Linking teacher positioning, student engagement, and physics identity development*	U.S.A.	Type: Mixed-methods Participants: Classes of four physics teachers who paid a lot of attention to conceptual knowledge, students teaching classmates, students' class participation, discussing the benefits of being a scientist, discussing science current events, labs addressing real-world beliefs, and discussing female under-representation	Physics identity; Sociocultural perspective	The results indicated that students who were taught by teachers who 1) explicitly indicated that no students would get left behind, 2) showed their own fallibility, 3) and would develop personal relationships with students, were more likely to identify with physics.

		Design: Cross-sectional Data: Student and teacher surveys, classroom observations and student and teacher interviews		
Jones and Deutsch (2013) *Social and identity development in an after-school program: Changing experiences and shifting adolescent needs*	U.S.A.	Type: Qualitative Participants: 17 adolescents who participated in an afterschool club of whom 15 had an African-American background Design: Longitudinal (over the course of a year) Data: Club observations and two student interviews per adolescent	Personal and learner identity; No specific theoretical perspective on identity development is mentioned	The results indicated that showing students what they have in common by inviting them to openly discuss personal issues may contribute to a safe social climate that is characterized by a strong sense of community. This may help students to feel supported in the exploration of their identities.
Kendrick et al. (2013) *Integrated literacies in a rural Kenyan girls' secondary school journalism club*	Kenya	Type: Qualitative Participants: 32 students with a low socio-economic status who participated in an extracurricular journalism club of a girls' school; the journalism club's teacher Design: Longitudinal (over the course of one year) Data: Club observations, student and teacher	Vocational identity; No specific theoretical approach of identity development is mentioned	The analysis suggested that when teachers invest in personal relationships with students this may help students to feel appreciated.

		interviews, student questionnaires, and student assignments		
Lam and Tam (2011) *Correlates of identity statuses among Chinese adolescents in Hong Kong*	China	Type: Quantitative Participants: 1260 students Design: Cross-sectional Data: Student surveys	Personal and learner identity; Psychosocial perspective	The results demonstrated that a personal teacher-student relationship decreases the chance that students are assigned an identity foreclosure status.
Olitsky (2007) *Facilitating identity formation, group membership, and learning in science classrooms: What can be learned from out-of-field teaching in an urban school?*	U.S.A.	Type: Qualitative Participants: An 8th grade classroom during their science classes at an urban magnet school Design: Longitudinal (over the course of a schoolyear) Data: Classroom observations, observations of research meetings with the teacher and four students, student interviews, teacher interviews, and school assignments made by students	Science identity; Combined theoretical perspectives on identity development (e.g., Lave and Wenger 1991; Wiley 1994)	It was found that in the classroom under study students with a non-dominant cultural background were more likely to be mocked when they would provide a wrong answer (but also when they would use 'presumptuous' jargon) than their fellow classmates. The results indicated that, because of this, students with a non-dominant cultural background may feel that the social position of a successful science student is not accessible to them, which may hinder the development of their science identities.
Parker (2014) *The process of social identity development*	U.S.A.	Type: Qualitative Participants: 36 high school choral singers	Music identity; Social psychological	The results indicated that showing students what they have in common by inviting them to openly discuss personal issues may

in adolescent high school choral singers: A grounded theory		Design: Longitudinal (covering three waves) Data: One to three interviews per student	perspective	contribute to a safe social climate that is characterized by a strong sense of community. Additionally, this sense of belonging can be stimulated by jointly introducing students to new, bonding experiences, such as working on a new song.
Rudd (2012) *Just "slammin!" adolescents' construction of identity through performance poetry*	U.S.A.	Type: Qualitative Participants: Members of a slam poetry group Design: Longitudinal (over the course of two years) Data: Group session observations, student interviews with five students, and coach interviews	Literacy identity; Sociocultural perspective	The study indicated that a safe group environment may be reinforced by the adoption of non-authoritarian position of coaches. This is argued to support the literacy identity development of adolescents.
Robb et al. (2007) *Looking for a better future: Identity construction in socio-economically deprived 16-year olds considering a career in medicine*	U.K.	Type: Qualitative Participants: 38 16 year old students who participated in a summer program, lived in socio-economically deprived areas, had expressed an interest in studying medicine, and were considered by their teachers to have high academic ability. Design: Cross-sectional	Learner identity; Sociological perspective	When teachers explicitly expressed to students that they had faith in them, this appeared to stimulate students' identification with the act of learning. These explicit expectations and compliments gave students the idea that their hard work mattered and was appreciated.

		Data: Student interviews and student reports		
Tan and Calabrese Barton (2007) *From peripheral to central, the story of Melaine's metamorphosis in an urban middle school science class*	U.S.A.	Type: Qualitative Participant: An 11 year-old girl who underperformed in her science class at the beginning of the schoolyear Design: Longitudinal (over the course of a schoolyear) Data: Classroom observations, student interviews, student focus groups and student assignments	Science identity; Sociocultural perspective	The results suggested that when a student is shy or insecure when it comes to the value of her contributions during a science class, it may help when the teacher slowly increases the level of difficulty of the questions that he or she asks the student while taking the student's answers very seriously as a sign of recognition. This would make the student feel less assessed and, consequently, the student may experience the social climate to be safe to explore her identification with science. It is also indicated that this process may be reinforced when peers of such students show their believes in that student’s science ability.

Van Ryzin (2014) *Exploring relationships among boys and men: A retrospective, qualitative study of a multi-year community-based group mentoring program*	U.S.A.	Type: Qualitative Participants: 4 male adolescents who participated in a Stepping Stone project (a project that is focused on who you are and want to be) and their parents Design: Cross-sectional Data: Student and parent interviews	Personal identity; No specific theoretical perspective on identity development is mentioned	The analysis suggested that when students have the feeling that they can be themselves and talk openly, this stimulates their identity exploration.

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