Dear future me: behavioral and neural mechanisms underlying self-concept development in relation to educational decision-making in adolescence

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Wat zou je tegen je 2 jaar jongere zelf willen zeggen?
"KIJK NIET ZOVEEL NAAR ANDEREN, JE KOMT ER WEL." ☺
Julia, 17 jaar

Chapter 2

THE DEVELOPMENT OF SELF-VIEWS ACROSS ADOLESCENCE: INVESTIGATING SELF-DESCRIPTIONS WITH AND WITHOUT SOCIAL COMPARISON USING A NOVEL EXPERIMENTAL PARADIGM

This chapter is published as:
Van der Aar, L.P.E., Peters, S., & Crone, E.A. (2018). The development of self-views across adolescence: investigating self-descriptions with and without social comparison using a novel experimental paradigm. *Cognitive Development, 48*, 256 - 270. doi: 10.1016/j.cogdev.2018.10.001

ABSTRACT

Adolescence has been described as a unique period for self-concept development, with an intensified alertness to social comparison as a mechanism for self-knowledge and self-evaluation. However, it remains difficult to disentangle the specific influence of these social comparisons on the development of self-descriptions in adolescence. Moreover, it is still unclear how social comparisons impact upon the development of self-views in different domains, such as physical, academic and social self-views. The goal of this study was therefore to examine the development of self-descriptions in different domains across adolescence, and to experimentally test how the development of these self-descriptions is altered by an explicit social comparison context. For this purpose, we developed two tasks which both asked participants (aged 9-25-years, N=202) for trait self-descriptions but differed in the salience of a social comparison. Results showed consistent age-differences with more positive self-views for children and adolescents in the age-range 9 – 14 years. The context of explicit social comparison yielded similar as well as additional age-differences that were more dependent upon valence and domain. Moreover, mid-adolescents (15-17 y) were most negatively affected by these social comparisons relative to other ages. Together, this study made a first step in disentangling the specific influence of social comparison outcomes within the development of general self-descriptions, and highlights the importance of social context in studying self-concept in adolescence.

INTRODUCTION

Adolescence can be described as a unique period in life marked by increases in self-exploration, which is accompanied by changes in the way adolescents view themselves (Erikson, 1968). It is thought that both cognitive and social influences may underlie these developmental changes in self-views. For example, prior research has demonstrated an increase in cognitive abilities, which allows for more abstract perspectives of the self (Selman, 1980; Elkind, 1967), that become more differentiated across different social contexts and domains (Harter, 2012). At the same time, the transition into adolescence highlights an important period of "social reorientation", indicating that adolescents become increasingly sensitive to their peer context (Moor, van Leijenhorst, Rombouts, Crone, & Van der Molen, 2010; Nelson, Leibenluft, McClure, & Pine, 2005; Pfeifer & Peake, 2012). They spend more time with peers, the feedback of peers becomes increasingly important, and peers also start to play a central part in the ability to shape self-views by the use of social comparisons (Sebastian, Burnett, & Blakemore, 2008). However, it remains difficult to disentangle the specific influence of these social comparisons on the development of self-descriptions in adolescence. Moreover, it is still unclear how social comparisons impact upon the development of self-views in different domains, such as physical, academic and social self-views. This study aims to examine the development of self-descriptions in different domains across adolescence, and to experimentally test how the development of these self-descriptions is altered by an explicit social comparison context.

Development of self-descriptions across domains

Self-views can be manifested as global self-esteem as well as domain specific self-concepts. Where global self-esteem refers to a more general evaluation of self-worth as a person, domain specific self-concepts point towards more distinct beliefs and evaluations about traits and competencies in different domains (Harter, 2012). For example, these domain-specific self-descriptions could refer to someone's abilities in a school context (academic self-concept), behavior in groups or social skills (social self-concept) or to an evaluation about one's appearance (physical self-concept). Research has suggested that self-descriptions become increasingly domain-specific with increasing age, with more differentiated self-evaluations for social, physical and academic domains (Marsh & Ayotte, 2003). This differentiation could also be related to the increasing set of social contexts adolescents find themselves in. They may view themselves differently in school (being a student), at home (being a child) or with peers (being a friend). Studies investigating the development of self-evaluations within these different domains across adolescence have yielded mixed results. For example, it

appears that the academic domain is most sensitive to the period of school transition, when the positivity of self-descriptions in this domain shows a temporary dip in early adolescence (Cole et al., 2001; Eccles et al., 1993; Schaffhuser, Allemand, & Schwarz, 2017). However, other studies found this decrease extended even into the end of high school (Fraine, Damme, & Onghena, 2007; Shapka & Keating, 2005; van der Cruijsen, Peters, van der Aar, & Crone, 2018), or on the contrary, showed steady increases in the academic domain over the course of adolescence (Bolognini, Plancherel, Bettschart, & Halfon, 1996; Kuzucu, Bontempo, Hofer, Stallings, & Piccinin, 2014). With regard to the social domain, studies have shown that the positivity of self-descriptions in this domain could be temporarily negatively influenced by school transitions as well, as this marks a social challenge of adapting to a new environment with the corresponding new friends, classmates, and teachers (Cole et al., 2001). Finally, research has produced quite consistent results with regard to the development of self-views in the physical domain during adolescence. Here, influences of biological factors, such as the start of puberty with the associated bodily changes, have shown to negatively impact descriptions related to physical appearance, and this decrease persists across adolescence (Kuzucu et al., 2014; Schaffhuser et al., 2017).

Interestingly, and although most measures of self-concept contain positive as well as negative self-descriptions, studies have generally only examined these as mean scores, as if they would be part of one single dimension with one negative and one positive end (see for example studies that have made use of the Self Perception Profile by Harter (1985, 1988) such as Cole et al., 2001 and Schaffhuser et al., 2017). However, these two valences are not polar opposites, in which the presence of one implies absence of the other (Bukowski, Laursen, & Rubin, 2018). Namely, one could maintain positive as well as negative self-views within the same domain at the same time. For example, someone could think he/she gets good grades (academic positive), but still feel they need help in school (academic negative). Averaging these scores into an essentially neutral mean score can result in missing out on important nuances between the two valences. Therefore in this study we chose to examine this evaluative concept of the self as a two-dimensional structure, and analyzed domain and age-related differences of self-descriptions separately per valence.

Influence of social comparison on self-views

Within the development of more differentiated self-descriptions during adolescence, the sources of information used to gain more knowledge about the self undergo changes as well. Where young children often base their self-concept on increases or decreases in their performance or behavior over time (e.g. 'I am good at math because I am better than I was last year'), they start to rely more on feedback from the social environment as a means of self-evaluation as they grow into adolescents (Dijkstra, Kuyper, van der

Werf, Buunk, & van der Zee, 2008; Harter, 2012; Pfeifer & Peake, 2012). One way to use the social environment as a mechanism for self-evaluation is by comparing oneself to others. These social comparisons have been found to be a key way to evaluate one's abilities and characteristics, and to gain a more accurate self-concept (Festinger, 1954). Social comparisons have been examined in very different and diverse ways; varying in topic, measurement, and target (for a meta-analysis, see Gerber, Wheeler, & Suls, 2017). For example, studies have looked at comparisons with population norms, (online) media characters as well as direct peers. These measurements can be explicit (such as self-report) or implicit (inferred by experimental manipulation) and have been associated with self-evaluations in various topics such as body image (Myers & Crowther, 2009), school performance (Dijkstra et al., 2008), and self-esteem (Vogel et al., 2014).

With regard to specific domains of self-evaluation, research has generally focused on investigating the influence of social comparison in one domain at a time. For example, many studies have examined the effects of appearance-focused social comparisons on body-image or body dissatisfaction. These often included comparisons with images of fashion models on TV or in magazines, but increasingly focus on online comparisons with peers as well as celebrities on social network sites such as Facebook and Instagram (Brown & Tiggemann, 2016; Fardouly, Diedrichs, Vartanian, & Halliwell, 2015). Social comparisons have also been a topic of research in the domain of academic self-concept, as the classroom provides an extensive environment to compare oneself to the abilities of other classmates (Dijkstra et al., 2008).

Studies that examined the use of social comparison in childhood and adolescence have shown that children's self-evaluations are still little affected by social comparisons until the age of 8 (Cremeens, Eiser, & Blades, 2007; Ruble, Boggiano, Feldman, & Loebl, 1980). This changes as children enter adolescence, and make the transition into secondary school. Here, the use of social comparisons as a pervasive data source for assessing one's abilities and characteristics increases, and adolescents are more prone to build their self-concept upon the outcome of these comparisons (Harter, 2012). By the age of 9 and 10 years, around 40 % of children use social comparison information as a source for self-evaluation and this keeps increasing to around 80 % of 13 and 14 year olds (Dijkstra et al., 2008; Keil, McClintock, Kramer, & Platow, 1990).

The current study

Together, adolescence can be described as a unique period, with an intensified alertness to social comparison as a mechanism for self-knowledge and self-evaluation. To date however, even though prior studies have investigated developmental patterns in self-descriptions across domains, there is still little understanding of how these self-descriptions are altered by a social comparison context. A study comparing self-views with and without an explicit social context, focusing on how they interact across

domains, valences and different ages in adolescence is still lacking. The goal of this study was therefore to compare self-descriptions with and without an explicit social comparison context, as well as age-related changes across adolescence and differences within domains and valence.

We focused on two main aims. First, we aimed to investigate the development of self-descriptions in a task without an explicit social comparison (termed 'Self-Attribution task' in this paper) in four age groups: late childhood (9 – 11 years), early adolescents (12 – 14 years), mid adolescents (15 – 17 years) and young adults (18 – 25 years), and across three domains (academic, social, and physical appearance). For this task, participants were asked to make judgements about how different trait adjectives applied to themselves. We expected more positive self-descriptions for the youngest age group, and greater variability across domains with increasing age, as an indication of a more fully differentiated self (Cole et al., 2001; Kuzucu et al., 2014; Marsh & Ayotte, 2003; Shapka & Keating, 2005).

Second, we aimed to experimentally test for developmental differences of self-descriptions within an explicit social-comparison context. For this purpose, participants completed a second self-other attribution task (termed 'Self-Other Attribution task' in this paper). This task consisted of different trait-adjectives and asked participants to judge based on first impression if they thought the trait would better fit themselves or an image of an unfamiliar peer in their age group. Adolescents have been found to become increasingly sensitive to the social peer context, which has often been associated with a decrease in self-evaluation (Dijkstra et al., 2008; Sebastian et al., 2008; Wehrens et al., 2010). Therefore, we predicted more pronounced developmental differences in this Self-Other Attribution task compared to the Self-Attribution task, with lower positive self-attributions in the early and middle adolescent age group.

In addition, we explored three supplementary aims related to individual differences in self-descriptions. First, we investigated the contributions of ratings of certainty and importance of self-descriptions. Earlier studies in adults have shown that people differ in the degree of confidence with which self-descriptions are held as well as the value they place upon these self-descriptions (D'Argembeau et al., 2012; Pelham, 1991). Investigating these two additional forms of investments in self-views may be especially relevant from a developmental perspective, as adolescence is a key period for exploring change and stability patterns in self-concept (Van Dijk et al., 2014). For example, possessing positive traits in the social domain might become more important during adolescence, as this could reflect the increased value of fitting in with the peer group in this period of social re-orientation.

Finally, we included gender in our analyses of self-descriptions, as gender has been found to be an essential variable when studying self-concept. A large body of research has focused on gender differences in general self-esteem, as well as domain specific self-

perceptions (for reviews, see Gentile et al., 2009; Zuckerman, Li, & Hall, 2016). These studies have generally shown a small advantage for boys in general self-esteem, and in the domains of physical appearance and athletics. Girls tend to show more positive self-perceptions in the domain of behavioral conduct (i.e. viewing one's behavior as appropriate). It is unclear however, how these gender differences in domain specific self-descriptions hold in the context of a social comparison.

METHOD

Participants

The sample consisted of 202 participants, aged 9 – 25. They were evenly distributed over four continuous age groups: late childhood (9 – 11 years; M_{age} = 10.52; SD_{age} = .14; N = 54; 25 males; 29 females), early adolescents (12 – 14 years; M_{age} = 13.09; SD_{age} = .17; N = 34; 20 males; 14 females), mid adolescents (15 – 17 years; M_{age} = 16.00; SD_{age} = .14; N = 57; 21 males; 36 females) and young adults (18 – 25 years; M_{age} = 21.09; SD_{age} = .14; N = 57; 25 males; 32 females). A χ^2-test indicated no significant sex differences between age groups (χ^2 (3, N(202) = 4.23, p = .24). The background of the sample was 95,5 % Dutch, 1,5% Moroccan and 3% classified as "Other". Around 43 % of the participants reported that one or two parents were born outside of the Netherlands (mainly Morocco and Turkey). Participants were recruited from two primary schools (late childhood and early adolescents), and two secondary schools (early, and mid adolescents) in Leiden and Rotterdam, the Netherlands. Secondary schools included a variety of academic levels. The group of young adults was recruited through our own network. These participants were students at different educational institutions also including a variety of academic levels in the Netherlands. We excluded psychology students, as they may be familiar with the measurements. Written informed consent forms were provided by the participants themselves or by a parent for minors. The study and its procedures were approved by the Leiden University Ethics Committee.

Experimental Tasks

We designed two experimental tasks that investigated self-descriptions with and without an explicit social context (Self-Attribution task and Self-Other Attribution task). In both tasks, participants were presented with adjectives that described traits or competencies in the domains of academics (e.g. 'intelligent' or 'unmotivated'), social skills (e.g. 'friendly' or 'jealous') and physical appearance (e.g. 'attractive' or 'skinny'). A total of 90 adjectives were selected from a merged list, containing 240 trait adjectives developed by Anderson (1968). The stimuli have been translated into Dutch and checked

for frequency of occurrence in the Dutch language, according to a database containing 44 million words from film and television subtitles (Keuleers, Brysbaert, & New, 2010). In order to determine how traits were generally perceived, we used the desirability scores of a French study of D'Argembeau et al., (2012). These scores ranged from 1 – 7. We selected traits that were generally perceived as highly desirable (M = 5,5) or not very desirable (M = 2,7) and labeled them as 'positive' or 'negative'. A paired t-test indicated a significant difference between these scores ($t(21) = 13{,}75$, $p < .001$). In addition, we asked a focus group of 8 students to categorize the traits as positive or negative as well. Finally, we equally divided the traits perceived as positive and negative over the domains. In total, each domain consisted of 30 stimuli, half with positive valence and half with a negative valence. Even though prior studies did not consistently distinguish between valences, we explored possible valence differences and domain x valence interactions in this study. Cronbach's alpha's for all domains ranged between .60 and .85 with an average of .75. Stimuli were presented electronically using the E-prime 2.0 software (Psychology Software Tools, Pittsburgh, PA).

Self-Attribution Task: For the Self-Attribution task, participants were asked to make three kinds of judgments for each trait using a Likert-type 4-point rating scale (1 = not at all, to 4 = completely): 1) self-descriptiveness (i.e., 'to what extent does this trait describe you?') and 2) certainty in the self-view (i.e., 'how certain are you of your answer?') To prevent participants from directly discounting a trait (e.g. labeling a positive trait described as inapplicable also as relatively unimportant to have) we presented the same trait adjectives as a second run apart from the first and asked participants for 3) the importance of the traits (i.e., 'how important is it for you to possess this trait?'; 1 = not at all important, 4 = very important). The stimuli and accompanying questions were presented in a random order and separated by a jittered black screen (500 to 1500 msec) and a white fixation cross (500 msec). To control for effects of attention, the second question about certainty of the self-view was displayed in a different color (blue) than the first question about self-descriptiveness (white). See **Figure 1A** for an example of the trial sequence.

Self-Other Attribution Task: In order to measure self-descriptions in a context with a more explicit social cue, all participants completed the task a second time during which they compared themselves on the same traits with pictures of unfamiliar peers in their age group. They were asked to decide on first impression whether they thought the presented trait adjective was most appropriate to describe either him/herself or the peer on the picture. For every age group, a total of 90 different photos (45 males, 45 females) were used (Moor et al., 2010). In advance, the individual pictures of every age group were randomized and assigned to one of the trait adjectives. Thus, within each age group every participant saw the same combination of trait and picture. Each of the 90 trials consisted of a jittered black screen for 500–1500 msec, followed by a

white fixation cross for 500 msec. Thereafter, the stimulus was presented, consisting of a trait adjective in the middle of the screen, a frame (either left or right) containing an emoticon referring to the self with the word "myself", and a frame (either right or left) containing a picture showing an unfamiliar peer with the words "the other" written below it. Using the left or right key, the participant could choose whether they thought the attribute was most appropriate to describe the person displayed in the left or right frame. The positions of the emoticon (self) and the picture (peer) were counterbalanced across trials. See **Figure 1B** for an example of the trial sequence.

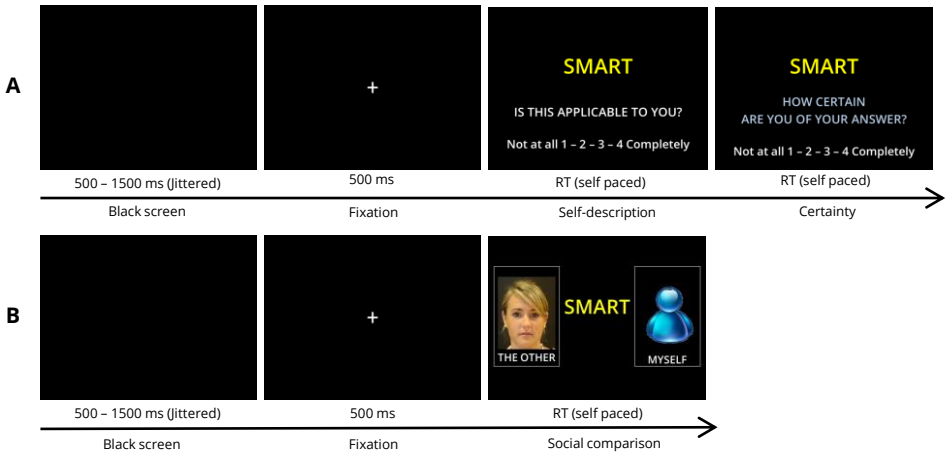

Figure 1. *Example of a trial for the Self-Attribution Task* ***(A)*** *and Self-Other Attribution Task* ***(B)****. Each trial started with a black screen with a jittered duration between 500 and 1500ms. Subsequently, a fixation cross was shown for 500ms after which the stimulus appeared. In the Self-Attribution task, participants rated on a scale of 1 to 4 to what extent the traits fit themselves and how certain they were of their decision. In a separate run, participants were asked to for the importance of the traits. In the Self-Other Attribution Task, participants chose on first impression if they thought the trait was most appropriate to describe either him/herself or the peer on the picture, using the left or right key.*

Questionnaires

Self-Perception: In order to validate the domains of the new paradigms, we made use of Harter's Self-Perception Profile scales for children (SPPC; Harter, 1985) and adolescents (SPPA; Harter, 1988). These well-validated questionnaires give a measure of adolescents' self-rated traits and competencies in different domains as well as a measure of their global self-evaluation. The questionnaires have been translated to Dutch (CBSK; Veerman, ten Brink, Straathof, & Treffers, 1996; CBSA; Treffers et al., 2002) and contain multiple domain-specific questions, each with two opposing statements. The adolescent has to choose one statement (e.g. either 'some teenagers

do very well at their class work', or 'other teenagers don't do very well at their class work') and decide for the chosen statement whether that statement is "somewhat true" (score 2 or 3) or "entirely true" (score 1 or 4). Items were scored on a 4-point scale and recoded so that higher numbers represent more positive self-perceptions. The CBSK consists of 36 questions divided over 6 subscales. The CBSA consists of 35 questions divided over 7 subscales. The 9 – 12 year olds were given the CBSK, the rest of the sample was given the CBSA. Only the subscales Scholastic Competence, Social Acceptance and Physical Appearance of the CBSK/A were used as a validation measure for the academic domain, social domain and physical appearance domain, respectively.

Self-Concept Clarity: Similarly, we used a Dutch translation of the Self-Concept Clarity Scale (Campbell, 1990; Van Dijk et al., 2014) as a validation measure for the description of certainty of the self-view in our experimental paradigm. This 12-item questionnaire measures the extent to which individuals describe their self-concept as clear, stable, and internally consistent. An example of an item is "My beliefs about myself often conflict with one another". Answers were given on a five point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree").The scale is generally used for children and adolescents of 12 years and older, and was reliable according to a Cronbach's alpha of .86. Mean scores were computed so that higher scores indicate higher self-concept clarity.

Procedure

This study was part of a larger study and consisted of two parts: The experimental tasks and a series of questionnaires measuring different aspects of self-concept development. In advance, participants were divided in two groups. They could start with the experimental tasks or the questionnaires and switch halfway through the testing session. All participants were tested in a regular classroom and a computer room or media library at the participating schools or universities. Participants were seated with at least one empty seat in between, to ensure they performed the tasks individually. Before the testing session, an experimenter explained the procedure to the class emphasizing anonymity. Participants were encouraged to honestly describe how they thought about themselves and ask questions if they did not understand the meaning of a trait adjective. Before starting the experimental tasks, participants were provided with a number of examples to ensure all participants understood the tasks. Five trained research assistants were present at all times to provide help. In consultation with the schools, participants were given either a monetary reward of 5 Euros or a small present for their participation.

Statistical Analyses

To test for age group effects on self-descriptions, we conducted a Repeated Measures ANOVA with Domain (3) and Valence (2) as within subject-factors and Age group (4) as between-subjects factor. This repeated measures ANOVA was performed for the average scores on self-descriptions as well as certainty given to the self-descriptions and importance of possessing the trait. Unfortunately, participants, as was communicated to the experimenters during the testing session, did not all correctly understand the question about importance. For negative valence, participants differed in their interpretation of the question and whether their accompanying answer referred to the importance to have this trait (e.g. scoring a 1, indicating low importance of having this negative trait) or not to have this trait (e.g. scoring a 4, indicating high importance not having this trait). Therefore, we only used the importance scores for the positive traits for the analyses.

For the Self-Other Attribution task, we first computed scores per domain of how often in the social comparison someone chose for themselves (for positive and negative traits separately) and included these scores into another 3 (Domain) x 2 (Valence) within-subjects factors and 4 (Age group) between-subjects Repeated Measures ANOVA. All reported repeated measures analyses are Greenhouse-Geisser corrected and post-hoc analyses make use of a Tukey correction for multiple comparisons.

In order to examine age-related differences in self-differentiation, we first recoded the applicability scores for the negative traits and combined these scores with the positive traits into one score per domain. This way, we would only look at differences in the positivity of self-descriptions across domains and not between valences. Next, we computed a standard deviation score per person for their self-descriptions scores on all three domains, in which a higher standard deviation indicated more variability across domains. Finally, we examined age group differences in variability with an ANOVA with a Tukey correction for multiple comparisons.

In order to validate the new paradigms, correlations between the different domains of the experimental tasks (academic, social and physical) and the corresponding domains of the self-report questionnaires (CBSK/A) were computed as well as correlations between the self-concept clarity scale and certainty of the self-view.

RESULTS

Self-Attribution Task

Self-descriptions

In order to examine age group differences in self-descriptions, we started with a 3 (Domain: academic, social, physical) x 2 (Valence: positive, negative) within-subjects factors and 4 (Age group: late childhood, early adolescence, middle adolescence, young adulthood) between-subjects Repeated Measures ANOVA. This analysis yielded a significant Domain x Valence x Age group interaction, (F (6,394) = 2.85, p = .010, η_p^2 = .04). As a result of this significant interaction, we further investigated the relation between age group and domain per valence separately.

For positive valence, we found a significant between-subjects effect of age group (F (3,197) = 6.76, p < .001, η_p^2 = .09). Post-hoc analyses showed higher average scores for the two youngest age groups (late childhood and early adolescents) compared to the mid adolescents (p = .011, p = .045 respectively) and the young adults (p = .002, p = .012 respectively). See **Figure 2A** for a visualization of these results. Next to this between-subjects effect, we also found a main effect of domain (F (2,394) = 91.41, p < .001, η_p^2 = .32). Overall, participants rated their physical traits less positive compared to their academic traits (F(1,197) = 81.45, p < .001, η_p^2 = .29), and social traits (F(1,197) = 175.36, p < .001, η_p^2 = .47). Scores on the social domain were higher than for the academic domain (F (1,197) = 8.08, p = .005, η_p^2 = .04).

There was also a significant Domain x Age group interaction for positive traits (F (6,394) = 5.87, p < .001, η_p^2 = .08). Post-hoc ANOVAs showed significant between-group differences for the physical domain only (F (3,197) = 11.61, p < .001, η_p^2 = .15). The youngest age group scored higher on positive physical self-descriptions in comparison to the mid adolescents (p = .020) and young adults (p < .001). The early adolescence age group showed similar results with a higher average on positive physical self-descriptions in comparison to the mid adolescents (p = .001) and young adults (p < .001). See **Figure 2C** for a visualization of these results.

For negative valence, we found a significant between-subjects effect of age group (F (3,197) = 4.82, p = .003, η_p^2 = .07), but no significant effect of domain or a Domain x Age group interaction (F (6,394) = 1.21, p = .298). Regardless of domain, the late childhood age group showed lower scores for negative traits compared to the mid adolescents (p = .043). Again, early adolescents differed significantly from mid adolescents (p = .009) and young adults (p = .043), showing overall lower scores on the negative traits. See **Figure 3A.C.** for a visualization of these results.

Finally, we explored possible developmental differences in self-differentiation across domains with an ANOVA on variability scores. This analysis resulted in a

significant effect of age group ($F(3,194) = 4.95, p = .002, \eta_p^2 = .07$). Post-hoc comparisons showed higher variability scores for the young adults compared to the late childhood group ($p = .005$) and the early adolescents ($p = .012$). In summary, the Self-Attribution task showed general age differences in positive as well as negative self-descriptions, with more positive and less negative self-descriptions in the two youngest age groups. For positive self-descriptions, these age related differences showed to be domain specific and are only present in the domain of physical appearance. In addition, scores on self-descriptions showed greater variability across domains with increasing age.

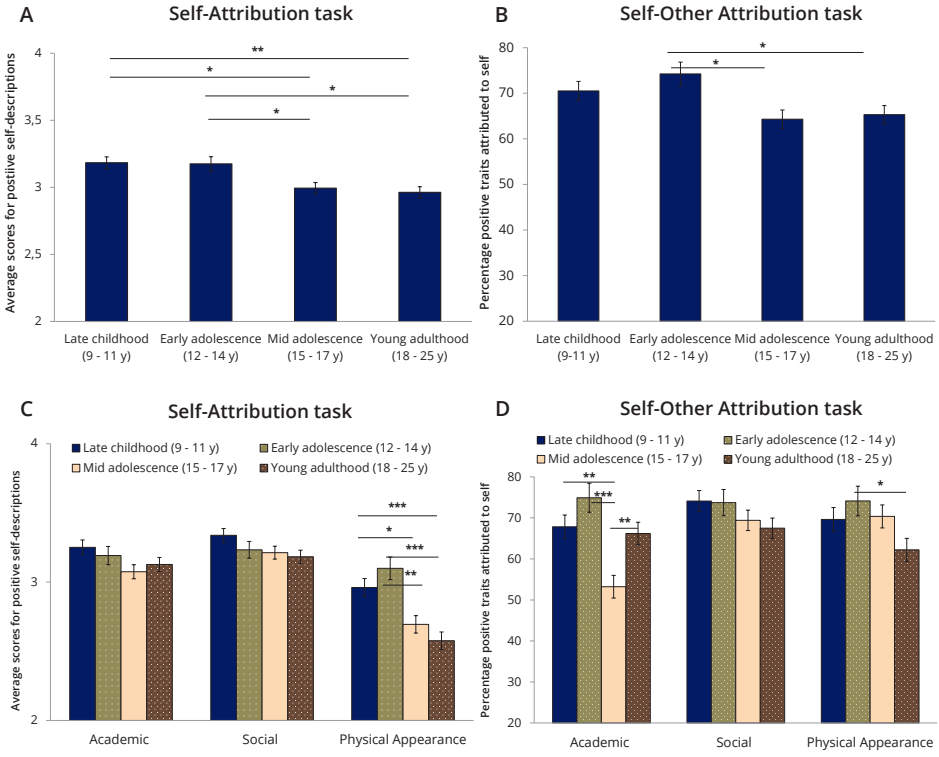

Figure 2. A. *Average scores for positive traits (range task = 1 – 4). Applicability scores were higher for late childhood and early adolescents compared to mid adolescents and young adults.* ***B.*** *Average percentages of positive traits attributed to self (range task = 0 – 100%). Early adolescents attributed more positive traits to themselves compared to mid adolescents and young adults.* ***C.*** *Scores for positive traits split out for domain. For the physical domain, applicability scores were higher for late childhood and early adolescents compared to mid adolescents and young adults.* ***D.*** *Average percentages of positive traits attributed to self, per domain. The academic and physical appearance domain yielded significant differences between age groups.*

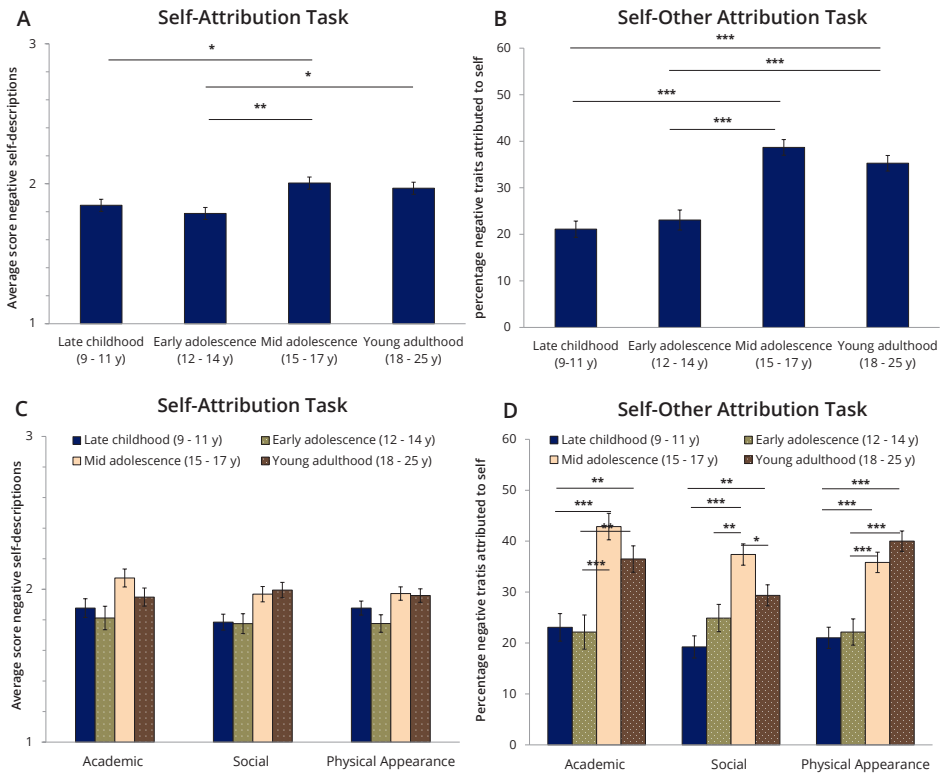

Figure 3. A. *Average scores for negative traits (range task = 1 – 4). Applicability scores were lower for late childhood and early adolescents compared to mid adolescents and young adults.* ***B.*** *Average percentages of negative traits attributed to self (range task = 0 – 100%). Late childhood and early adolescents attributed less negative traits to themselves compared to mid adolescents and young adults.* ***C.*** *Scores for negative traits split out for domain. Regardless of domain, applicability scores were lower for late childhood and early adolescents compared to mid adolescents and young adults.* ***D.*** *Average percentages of negative traits attributed to self, per domain. All domains yielded significant differences between age groups.*

Certainty

We investigated certainty of self-judgements using the same order of analyses as with the applicability of the self-descriptions. Results of the first Repeated Measures ANOVA yielded a significant Domain x Valence x Age group interaction, (F (6,394) = 2.40, p = .028, η_p^2 = .04). As a result of this significant interaction, we further investigated the relation between age group and domain per valence separately.

For positive valence, we found a significant between- subjects effect of age group (F(3,197) = 5.25, p = .002, η_p^2 = .07). Post-hoc analyses showed higher average certainty scores for the youngest age group (late childhood) compared to the mid adolescents (p = .005) and the young adults (p = .009). Next to this between-subjects effect, we also

found a main effect of domain (F (2,394) = 21.84, p < .001, η_p^2 = .10). Overall, participants showed lower certainty scores for the physical domain compared to the academic domain (F (1,197) = 26.77, p < .001, η_p^2 = .12), and the social domain (F (1,197) = 34.00, p < .001, η_p^2 = .15). There was no Domain x Age group interaction for positive valence certainty.

For negative valence, we solely found a significant between-subjects effect of age group (F (3,197) = 4.52, p = .004, η_p^2 = .06). Early adolescents differed significantly from the other three age groups, showing lower average certainty scores for the negative self-descriptions compared to the late-childhood age group (p = .008), mid adolescents (p = .038), and young adults (p = .005). See **Figure 4** for a visualization of all certainty results.

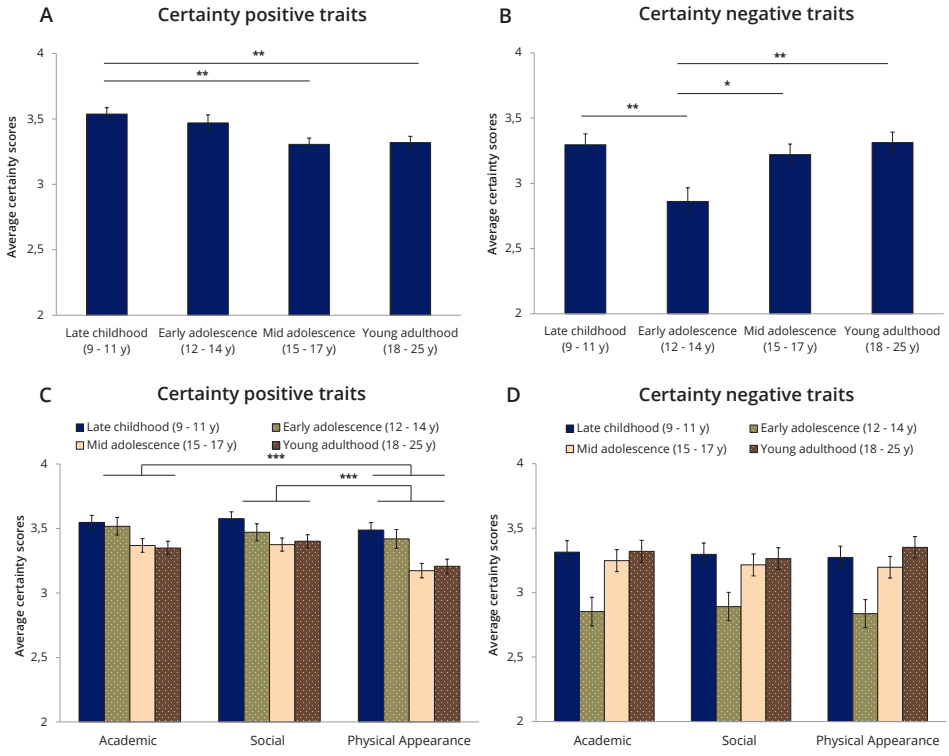

Figure 4. A. *Average certainty scores for positive traits (range task = 1 – 4). Certainty scores were higher for late childhood compared to mid adolescents, and young adults.* ***B.*** *Average certainty scores for negative traits. Certainty scores were lower for early adolescents compared to late childhood, mid adolescents, and young adults.* ***C.*** *Certainty cores for positive traits split out for domain. Participants were least certain about possessing positive physical traits.* ***D.*** *Certainty cores for negative traits split out for domain. Regardless of domain, certainty scores were lower for early adolescents compared to late childhood, mid adolescents, and young adults.*

Importance

Importance was only scored for positive traits (see methods section). A Repeated Measures ANOVA for the positive traits did not result in a significant between-subjects effect ($F(3,193) = 1.31, p = .272, \eta_p^2 = .02$). However, we did find a main effect of domain ($F(2,386) = 125.26, p < .001, \eta_p^2 = .39$). Overall, participants scored physical traits as less important to have compared to academic ($F(1,193) = 111.51, p < .001, \eta_p^2 = .37$), and social traits ($F(1,193) = 191.31, p < .001, \eta_p^2 = .50$). Social traits were thought to be most important to possess, as they were also scored higher compared to traits in the academic domain ($F(1,193) = 16.78, p < .001, \eta_p^2 = .08$).

There also was a significant Domain x Age group interaction ($F(6,386) = 3.51, p = .004, \eta_p^2 = .05$).). Post-hoc ANOVAs only showed significant between-group differences for the physical domain ($F(3,197) = 3.99, p = .009, \eta_p^2 = .06$). Early adolescents scored positive physical traits as more important in comparison to young adults ($p = .009$). See **Figure 5** for a visualization of these results.

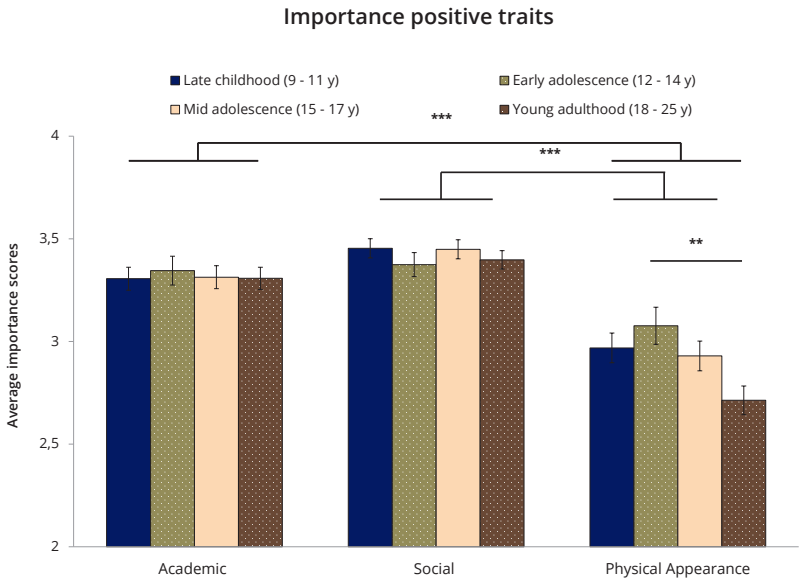

Figure 5. *Average importance scores for positive traits (range task = 1 – 4). Participants scored physical traits as least important, and social traits most important to possess. Early adolescents scored physical traits as more important in comparison to young adults.*

Self-Other Attribution Task

To examine age effects for the Self-Other Attribution task, we used the same order of analyses as for the Self-Attribution task. We first computed scores per domain of how often in the context of the social comparison someone chose for themselves (for positive and negative traits separately). These scores were transformed into percentages "chosen for self" and used as dependent variables. We started again with a 3 (Domain) x 2 (Valence) within-subjects factors and 4 (Age group) between-subjects Repeated Measures ANOVA. This analysis yielded a significant Domain x Valence x Age group interaction, (F (6,390) = 5.23, p < .001, η_p^2 = .07). As a result of this significant interaction, we further investigated the relation between age group and domain per valence separately.

For positive valence, we found a significant between- subjects effect of age group (F (3,195) = 4.19, p = .007, η_p^2 = .06). Post-hoc analyses showed that early adolescents attributed more positive traits to themselves compared to the mid adolescents (p = .014) and the young adults (p = .032). There was a main effect of domain as well (F (2,390) = 5.67, p = .005, η_p^2 = .03). Here, only the academic and social domain showed a significant difference, in which participants generally attributed more positive social traits to themselves, compared to positive academic traits (F (1,195) = 13.39, p < .001, η_p^2 = .06).

This analysis also yielded a significant Domain x Age group interaction (F (6,390) = 5.032, p < .001, η_p^2 = .07). Post-hoc ANOVAs showed significant between-group differences for the academic domain (F (3,195) = 8.98, p < .001, η_p^2 = .12) and the physical domain (F (3,195) = 2.684, p = .048, η_p^2 = .04). For the academic domain, mid adolescents scored lower on the positive academic self-descriptions in comparison to the late childhood age group (p = .002) early adolescents (p < .001) and young adults (p = .006), indicating they attributed fewer positive academic traits to themselves. For the physical domain, early adolescents differed significantly from the young adults (p = .048), showing more attribution of positive physical traits to themselves compared to this older age group. See **Figure 2B.D.** for a visualization of these results.

For negative valence, we again found a significant between-subjects effect of age group (F (3,195) = 24.14, p < .001, η_p^2 = .27). Post-hoc analyses showed that two youngest age groups attributed fewer negative traits to themselves compared to the mid adolescents (p < .001) and the young adults (p < .001). A main effect of domain was also present, with a significant difference between the academic and social domain. Participants generally attributed more negative academic traits to themselves, compared to negative social traits (F (2,390) = 3.02, p = .05, η_p^2 = .02).

There also was a significant Domain x Age interaction (F (6,390) = 3.30, p = .004, η_p^2 = .05)., indicating significant between-group differences for the academic domain (F (3,195) = 13.29, p < .001, η_p^2 = .17), the social domain (F (3,195) = 12.72, p < .001, η_p^2 = .16),

as well as the physical domain (F (3,195) = 20.21, p < .001, η_p^2 = .24). With regard to the academic domain, the late childhood age group attributed fewer negative academic traits to themselves compared to the mid adolescents (p < .001) and the young adults (p = .002). The early adolescent age group showed similar results with fewer attributions to themselves compared to the mid adolescents (p < .001) and young adults (p = .005). Post-hoc analyses for the social domain illustrated a similar pattern. The late childhood age group attributed significantly fewer negative social traits to themselves compared to mid adolescents (p < .001) and young adults (p = .005). Mid adolescents continued to show a negative pattern in this social domain. Besides assigning significantly more negative social traits to themselves compared to the youngest age group, they also differed significantly compared to early adolescents (p = .002) and young adults (p = .035). Finally, post-hoc analyses for the physical domain revealed the same age group differences. The two youngest age groups attributed significantly fewer negative physical traits to themselves compared to mid adolescents (p < .001) and young adults (p < .001). See **Figure 3B.D.** for a visualization of these results.

In summary, the Self-Other Attribution task showed that the context of an explicit social comparison produces strong differences in self-attributions between age groups, valences and domains. Again, age differences were generally in favor of the two youngest age groups (i.e., positive traits for self rather than other, negative for other rather than self), although differences were largely dependent upon valence and domain specificity.

Gender differences

In order to examine the influence of gender in both tasks, we performed the Repeated Measures ANOVAs with gender included as an additional between-subjects factor. For the Self-Attribution Task, the first 3 (Domain) x 2 (Valence) within-subjects factors and 4 (Age group) x 2 (Gender) between-subjects Repeated Measures ANOVA yielded a significant Domain x Valence x Gender interaction, (F (2,386) = 8.36, p < .001, η_p^2 = .04). As a result of this significant interaction, we further investigated the relation between gender and domain per valence separately.

For positive valence, we found a significant Domain x Gender interaction (F (2,398) = 6.71, p = .002, η_p^2 = .03). Post hoc t-tests showed solely for the academic domain a significant gender difference, indicating that girls (M = 3.25, SD = 0.37) described themselves more positively than boys (M = 3.03, SD = 0.37), t (199) = -4.05, p < .001, d = .57). For negative valence, a Repeated Measures ANOVA resulted in a significant Domain x Gender interaction (F (2,398) = 6.19, p = .002, η_p^2 = .03). However, post hoc t-tests did not show any significant gender differences.

A Repeated Measures ANOVA for the Self-Other Attribution task, again with gender included as an additional between-subjects factor, resulted in a significant Domain x Valence x Gender interaction, (F (2,382) = 6.62, p = .001, η_p^2 = .03). When investigating

the relation between gender and domain per valence separately however, positive valence did not show a significant Domain x Valence interaction. We did find a significant Domain x Valence interaction for negative valence (F (2,394) = 4.43, p = .012, η_p^2 = .02), however again post-hoc t-tests did not result in any significant gender differences.

Validation

The validity of the domains used in the new paradigms was judged on correlations with the corresponding scales of the self-report questionnaires CBSK/A. We computed Z-scores in order to combine the scores of both questionnaires. Results showed significant correlations between the academic domain and the Scholastic Competence scale for positive valence (r = .21, p < .001) as well as for negative valence (r = -.29, p < .001); between the social domain and the Social Acceptance scale (r = .27, p < .001 for positive valence, r = -.32, p < .001 for negative valence), and between the physical domain and the Physical Appearance scale (r = .43, p < .001 for positive valence, r = -.35, p < .001 for negative valence). For an overview see **Table 1.**

Similarly, the Self-Concept Clarity Scale (SCC; Campbell, 1990; Van Dijk et al., 2014) was used as a validation measure for the description of certainty of the self-view in the experimental paradigms. Results showed only significant correlations between the SCC and certainty in the positive task domains: academic (r = .23, p < .001), social (r = .28, p < .001) and physical (r = .18, p < .05).

Table 1.

Intercorrelations between task domains and corresponding CBSK/A scales

Scale	CBSK SC	CBSK SA	CBSK PA	CBSA SC	CBSA SA	CBSA PA	Zscores SC	Zscores SA	Zscores PA
Academic Positive	**.41****	.15	.18	**.14**	.01	.02	**.21****	.05	.07
Academic Negative	**-.52****	-.41**	-.21	**-.20***	-.22**	-.19*	**-.29****	-.28**	-.19**
Social Positive	.12	**.33***	.20	.02	**.26****	.15	.05	**.27****	.16*
Social Negative	-.32*	**-.34****	-.37**	-.17*	**-.32****	-.36**	-.22**	**-.32****	-.36**
Physical Positive	.21	.44**	**.32***	.16	.52**	**.51****	.17*	.47**	**.43****
Physical Negative	-.33*	-.29*	**-.39****	-.19*	-.42**	**-.34****	-.23**	-.28**	**-.35****

Note: SC = Scholastic Competence; SA = Social Acceptance; PA = Physical Appearance.
Highlighted in bold are correlations between corresponding domain and scale.
* = p < .05; ** = p < .01. CBSK (N = 60); CBSA (N = 137).

DISCUSSION

The main aim of this study was to examine the development of domain-specific self-descriptions with and without an explicit social context. To this end, we developed two tasks that both asked adolescents about trait self-descriptions but differed in the salience of the presence of a social comparison. The results of this study revealed general age differences in self-descriptions, with the two youngest age groups rating themselves more positively. Moreover, these age differences showed to be dependent upon valence and domain. Finally, the Self-Other Attribution task showed that the context of an explicit social comparison seems to enhance age-related differences in self-descriptions between age groups, valences and domains. The discussion is organized alongside the line of these findings.

Developmental changes in self-descriptions

First, we examined age-related changes in self-descriptions, without the emphasis of social context (Self-Attribution task). This task showed general age differences in which the two youngest age groups (late childhood and early adolescents) between the ages of 9 and 14 repeatedly showed more positive as well as less negative self-descriptions compared to the two older age groups. As has been previously described in the literature, over the course of childhood children tend to show typically very positive self-representations and overestimate their abilities, also referred to as a "positivity bias". This positivity bias generally declines as children become older and make the transition into adolescence (Harter, 2012; Pfeifer & Peake, 2012; Trzesniewski, Robins, Roberts, & Caspi, 2003), although there is still much debate whether self-evaluations actually decrease, stabilize, or even increase during the course of adolescence (Steiger, Allemand, Robins, & Fend, 2014). Some researchers have argued that self-perceptions become more negative as adolescents start to rely more on external feedback and outcomes of social comparisons as a basis for self-evaluation (Harter, 2012; Ruble et al., 1980; Sebastian et al., 2008). These changes give rise to more realistic information about the self and therefore more accurate self-perceptions. Also maturational changes associated with puberty and social changes such as the transition from elementary school to (junior) high school could result in a decrease of positive self-perceptions (Schaffhuser et al., 2017). Our results indicate that the positivity bias seen in childhood possibly extends into early adolescence, as the results of this age group (12-14) were similar to those of late childhood (9-11).

An alternative explanation for this relatively late decrease in positivity bias compared to other studies could be that our group of early adolescents in the age range of 12 – 14 years consisted of individuals in elementary school as well as adolescents in the second year of Dutch high school. As none of these adolescents were currently

in – or recovering from the transition period into high school, this could partly explain why we did not find a dip in self-descriptions in this early adolescence age group. When looking at the two older age groups (mid adolescents and young adults) in this sample, results show a decrease for overall self-descriptions compared to the two youngest age groups. This is consistent with a large body of research that shows that the positivity of self-descriptions further declines across the adolescent years (Steiger et al., 2014; Trzesniewski et al., 2003).

Moreover, in this study we investigated the development of self-descriptions according to different domains. Most of the described studies have investigated the trajectories of global self-evaluations and gave less attention to trajectories concerning self-descriptions specific to domains. This focus on global rather than distinct aspects of self-concept could partly explain the inconsistency in findings in studies mapping the development of self-concept across adolescence. Indeed, earlier studies that have examined dimensional aspects of self-concept have found different self-descriptions according to different domains and that these distinctions become less correlated over time, suggesting a more differentiated self-concept from childhood to young adulthood (Marsh & Ayotte, 2003). Our results support this notion of domain specificity in two ways. First, we found that the overall age effects between the younger and older adolescents were most apparent in the domain of physical appearance. Self-descriptions for this domain showed a decrease across adolescence. This finding is consistent with other literature and has been related to changes in physical development (Kuzucu et al., 2014; Schaffhuser et al., 2017; Wigfield, Eccles, Reuman, & Midgley, 1991). Moreover, studies have suggested that the transition into adolescence often coincides with increased exposure to offline and online media images of ideal bodies. Together with the increased susceptibly to social comparisons, this could lead to an increased discrepancy between these ideal images and the own body, and result in more negative self-evaluations in the physical domain (Myers & Crowther, 2009). Notably, this effect was found for positive valence only. With regard to valence, most studies choose not to differentiate between positive and negative stated trait adjectives or average both into a mean score of the specific scale. Our results, however, suggest that valence is an important extra factor to take into account as developmental differences in self-descriptions vary across these factors. A second argumentation for increased domain specificity is related to our finding of increased variability across domains with age, which gives support to the idea of the development of a more differentiated self across adolescence (Marsh and Ayotte, 2003).

In addition to examining general age trends in self-descriptions, we investigated developmental changes in ratings of certainty and importance of self-descriptions. For the positive self-descriptions, results showed general higher certainty scores for the youngest age group compared to the two oldest age groups. Thus, besides rating themselves more

positive on self-descriptions, the late childhood group is at the same time also more confident about their ratings. These results relate well to the idea that it is difficult to come to an extreme opinion about yourself without feeling extremely confident about this belief (Pelham, 1991), and fits with the more prevalent "all or none" thinking in childhood compared to adolescence (Harter, 2012). The lower certainty ratings of the mid adolescents support the notion of more confusion and unstable self-representations during this period of adolescence (Harter, 2012). With regard to the young adults, lower certainty ratings could be associated with the multiple important life experiences (such as changes in education, work and living conditions) that take place in this period, which could stimulate increased levels of exploration and uncertainty (Crocetti et al., 2016). Moreover, with increasing age, adolescents come across more opportunities and targets to compare themselves to; they are not limited to their direct environment (which includes an increasing amount of different contexts as well), but can also compare themselves to anyone they want online. These increases in comparison opportunities with possible conflicting outcomes could also result in increased uncertainty about the self. For the certainty ratings for the negative self-descriptions, a different pattern of age differences emerges. Our results suggest that the early adolescents show a dip in certainty of negative self-traits around age 12 - 14, but this needs to be confirmed in further studies.

Aside from age differences we also found a general effect of domain, showing that self-descriptions related to the physical domain were overall scored with less certainty compared to self-descriptions of the other domains. The physical domain has been described as qualitatively different from other self-concept domains, as physical appearance is always on display for others and ourselves to scrutinize and judge (Harter, 2012). At the same time however, we are often uncertain of the real opinions of others about the way we look, and the feedback we receive can be contradicting. Receiving contradicting feedback could also result from the more substantially varying opportunities for comparing one's physical appearance, compared to the options for comparing academic competence or social skills. For example, comparing oneself to the physique of direct peers could result in thinking 'I am attractive', whereas in relation to media images this comparison could simultaneously result in thinking 'I am far from attractive'. Together, this could lead to less confidence for the physical domain specifically. Interestingly, participants also judged traits of the physical domain as least important to possess, compared to academic competence or social skills. This is remarkable, as many studies have shown that how you evaluate your physical appearance is the number one predictor of general self-esteem (von Soest, Wichstrøm, & Kvalem, 2015). These results could be an example of self-protection where individuals choose to discount the importance of traits they think they do not possess, in order to protect self-esteem. Another possibility could be that these results illustrate a form of social desirability bias and reflect the societal norm not to appear as shallow.

Self-descriptions in the context of social comparison

As a second goal of this study, we focused on the development of self-descriptions within an explicit social-comparison context to examine how this influenced self-descriptions. This was achieved by asking participants to judge themselves relative to unknown peers. Again, we tested differences between age groups and domain. Compared to the Self-Attribution task, the Self-Other Attribution task with an explicit social comparison yielded similar as well as additional differences between age groups and domains. In general, age differences were again in favor of the two youngest age groups (more positive and less negative self-attributions), although age differences were largely dependent upon valence and domain specificity.

For positive valence, early adolescents (12-14) generally showed the highest scores, indicating that they attributed more positive self-descriptions to themselves compared to an unknown peer. This self-preference was most evident in the domains of academics and physical appearance. Thus, also within an explicit social comparison, this group continued to hold a more positive self-image. This is interesting, as most literature suggests that during this period of adolescence attention to social comparison information as a means of self-evaluation increases, generally leading to a decrease in self-evaluation (Dijkstra et al., 2008; Wehrens et al., 2010). The results from this study suggest that the transition to a less positive self-concept occurs later in mid- rather than early adolescence. Another notable result is the drop in positive self-evaluation for the mid adolescent group (15-17) in the academic domain specifically. The academic domain could be profoundly sensitive to social comparison, as the classroom is a highly evaluative environment where comparison of performance and grades with classmates is often emphasized (Wehrens et al., 2010). The more performance-focused character of the final years of high school could especially lead to increased social comparison and affect the self-concept for adolescents in this age group more negatively.

For negative valence, results showed similar general age-trends as for the self-attribution task. However, compared to the self-task, the context of a social comparison yielded more differences specific to domain. A finding that stands out mostly is the difference in age groups for the social domain specifically. This domain has not yielded any notable differences in the Self-Attribution task, but it shows that comparing self to peers for negative self-descriptions affects the mid adolescence group most negatively. Interestingly, this is the age group that appears to be most affected by the change in context by scoring themselves less positive and more negative on multiple domains. These results could possibly illustrate adolescent-specific transitions in social reorientation (Nelson et al., 2005; Sebastian et al., 2008).

Self-descriptions with and without explicit social comparison

Together, results on the development of self-descriptions with and without the context of an explicit social comparison showed similarities as well as differences. With regard to similarities, we found that the youngest age groups between 9 – 14 years old showed a robust and consistent 'positivity bias' across both task contexts and valences, which was reflected in more positive and less negative self-descriptions in the Self-Attribution task as well as more positive and less negative self-attributions in the Self-Other Attribution task. Differences between both tasks were most evident in the result of more pronounced age-differences that became more strongly dependent upon valence and domain. Here, the group of mid adolescents showed to be most affected by the addition of a social comparison, indicated by less positive self-attributions in the academic domain and more negative self-attributions in all domains. These results give support to the increased sensitivity to the social context for this specific age group, showing that regardless of domain, the context of explicit social comparison elicited greater uncertainties about own traits and competences.

Gender effects

Finally, we investigated whether gender contributed to differences in domain specific self-descriptions and whether the context of a social comparison could influence self-descriptions for boys and girls differently. Results showed significant differences for the academic domain only, where girls described themselves more positively than boys. This is consistent with the idea that girls perform better academically and receive higher grades than their male peers (Gentile et al., 2009). However, results regarding academic self-evaluation in favor of girls are mixed. It has been suggested that girls are more critical of their academic abilities and that performing well does not always affect how they view their academic traits. The lack of finding other gender differences is consistent with the review of Zuckerman and colleagues (2016) that states that gender differences in self-evaluation have been declining for the past 20 years. Interestingly, we did not find any gender differences in the Self-Other Attribution task. Previous research has demonstrated that girls compare themselves more to others than boys do, and more often make upward comparisons which is more likely to negatively affect self-evaluations (Dijkstra et al., 2008; Jones, 2001; Myers & Crowther, 2009). As our task limited participants to only compare themselves to unknown peers, instead of also comparing to celebrities or unrealistic media images for example, this could possibly explain why we did not find any gender differences with this task.

Limitations and future directions

This study has some limitations that should be addressed in future studies. First, the two tasks we used in order to investigate self-descriptions with or without an explicit social context differed in scale format. Whereas participants could rate themselves on a

scale from 1 to 4 for the Self-Attribution task, results for the Self-Other Attribution task demonstrated a percentage score from 0 to 100 of 'chosen for self'. This discrepancy limited a direct comparison between the two tasks. Future studies should assess both aspects using tasks with similar scales.

For the Self-Other Attribution task, the social comparison was based on a simple social cue of an image of the face of an unknown peer, which limits participants to comparing themselves on the basis of first impressions only. However, the fact that we found significant results even with such a minimal social cue builds an even stronger case for adolescents' susceptibility to social comparison. With these results in mind, adding more information about the unknown peer would be an interesting new direction to investigate this susceptibility in more detail. In addition, because the comparison with the unknown peer was based on first impression, stereotypes (e.g. by gender) might have played a role as well. Although beyond the scope of this paper, it would be an interesting idea for future research to further examine the influence of these gender stereotypes on self-evaluation within a social comparison context.

Further, although internal consistency of the domains of the tasks was high (average .75), and we found consistent significant correlations with other measures of self-concept, the correlations with the questionnaires (CBSK/A and SCC) we used to validate the measures of applicability and certainty of self-descriptions were around .30. For both measures, this could be related to potential differences between the number and the framing of items in the questionnaires and in our tasks. For example, we included more trials per domain (30 instead of 6) and we used single traits instead of the sentences used in the CBSK/A. The SCC measures general stability and internal consistency of self-concept, which could be different from our measures of certainty related to specific domains.

Another limitation is related to the sample and recruitment process. We did not specifically select and group participants based on their school or grade level, therefore our sample did not include adolescents that were currently experiencing the transition period into high school. This could partly explain the relative positive results we found for adolescents in this age-range, as research has often found temporary drops in mean levels as well as stability of self-perceived competence during this transitional period (Cole et al., 2001; Schaffhuser et al., 2017). Future studies should take school transitions into account to give a more complete picture of the development of self-descriptions within these contextual influences.

Finally, this study was cross-sectional in nature. Future studies should make use of longitudinal designs to examine within-person developmental changes in self-descriptions.

Conclusions

Taken together, we investigated developmental changes in domain-specific self-descriptions with and without the context of explicit social comparison across adolescence. Results showed consistent age-differences with more positive self-views for children and adolescents in the age-range 9 – 14 years. The context of explicit social comparison yielded similar but more pronounced age-differences that were more strongly dependent upon valence and domain. Moreover, mid adolescents showed to be most negatively affected by these social comparisons relative to other ages. Together, this study made a first step in disentangling the specific influence of social comparison outcomes within the development of general self-descriptions, and highlights the importance of social context in studying self-concept in adolescence.