

# Change in Students' Educational Expectations – A Meta-Analysis

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## Abstract

Data from the U.S. and Canada indicate that students' educational expectations are often unrealistically high. Thus, the present meta-analysis tested whether students tend to decrease, on average, their educational expectations from childhood to emerging adulthood. A systematic search in the electronic databases ERIC, PsycInfo, PSYINDEX, and Web of Science identified 91 longitudinal studies the results of which were integrated with multi-level meta-analysis. While expectations about the highest future educational degree showed very small declines per year (of  $g = -.02$  standard deviation units), the mean yearly decline of expectations about future grades was estimated to be  $g = -.73$ . Moderator analysis found a decline in expectations about the final degree only in studies from the U.S. and Canada—countries with the highest gap between expectation and future educational attainment. In addition, change in expectations about the final degree varied by age, with the strongest decline being observed around the age of 20 years. We conclude that positive expectations about the final educational attainment often tend to persist over longer intervals probably due to lacking strong counter-evidence and because of indicating a desirable outcome.

**Keywords:** academic achievement, educational attainment, expectation, grades, meta-analysis

## 1. Introduction

Educational expectations address anticipated future academic achievement. As stated in Eccles' expectancy-value theory of achievement motivation, achievement expectations are important for explaining achievement-related behavior and academic outcomes (e.g., Muenks et al., 2018; Rosenzweig et al., 2019). Educational expectations may refer to the anticipated test score or grade in a future exam or to an educational degree one expects to achieve in life (such as receiving a Bachelor's or Master's degree; Reynolds & Pemberton, 2001).

Although educational expectations have been characterized as student's *best estimate* of attainment based on available information (Jacob & Wilder, 2010), they do not always come true. For example, the proportion of U.S. students who expect a college or graduate degree has become much larger than the proportion of the population who actually attains these levels (Goyette, 2008; Jerrim, 2014). Jerrim (2014) found a 27% and 37% difference between expecting and attaining a college degree when using two data sets from the United States. Students also tend to expect higher grades than they finally earn (Buckelew et al., 2013; Pinquart & Ebeling, 2020a).

While traditional sociological models viewed educational expectations as formed in the early years of life, determined by the social background, and as fairly stable thereafter (see the Wisconsin model of socioeconomic attainment; Sewell et al., 2004), a contrasting theoretical view proposes that students update their expectations continuously throughout their academic careers when new and pertinent information becomes available (Andrew & Hauser, 2011; Carolan, 2017). Such information may refer to expectation-discrepant achievement feedback (Pinquart & Ebeling, 2020a), shifting expectations of significant others (Pinquart & Ebeling, 2020b), contact with new social ties (Carolan, 2017), or declines of financial resources that may no longer allow college enrolment (Renzulli & Barr, 2017).

As many students start with overly positive expectations about their future academic achievement, updates should lead, on average, to a decline of positive expectations. However, results are contradictory on whether students' educational expectations tend to decline over time, whether the size of expectation change differs by the content of the expectation (future grades in an exam versus highest educational degree one expects to attain in life), and whether the size of expectation change differs by students' age and other characteristics. Research on these questions has not yet been integrated in a systematic review or meta-analysis. Thus, the goal of the present

meta-analysis was to integrate the results of available studies on these questions.

Although many students have been shown to maintain their expectations about the final educational degree when assessed over shorter time intervals, a number of studies observed that in the case of expectation change, declines (from more demanding to less demanding qualifications or to drop out from the educational system) were more common than increases (e.g., Alexander et al., 2008; Anders & Micklewright, 2015 when combining the “very likely” and “fairly likely” categories; Geagea et al., 2019). However, other studies found similar rates of expectation decrease and increase (Park et al., 2015; Tynkkynen et al., 2012) or even an average increase in educational expectations (Anders & Micklewright, 2015 when focusing on the “very likely” category). The inconsistent results may be based on different age ranges studied, use of different measures, cross-national differences, or different sample compositions (e.g., regarding socioeconomic status (SES) or gender). Results seem to be more consistent with regard to changes in expected future grades where expectations tend to decline, on average (e.g., Bucklew et al., 2013; Jensen & Moore, 2008, but for an exception, Saenz et al., 2017, study 1).

It has been suggested that students’ educational expectations decrease more at an older age because expectations of younger children may be based on hopes and ambitions while older students become more aware of barriers that limit the chance of fulfilling high expectations which makes their expectations more realistic (Park et al., 2015; Muenks et al., 2018). In fact, Dauber (1994) found a very small increase of educational expectations between grade 4 and 5 while expectations started to decline between grade 6 to 8. Mello (2008, 2009) also found evidence for an inverted u-shaped change of educational expectations, although expectations peaked in this study around the age of 20 years.

SES may be another source of differential change of expectations. Anders (2017) and Park et al. (2015) showed that adolescents from low-SES families are much more likely to revise their expectations downwards and much less likely to raise their expectations than peers from high-SES families. In contrast, Mello (2009) observed that change of educational expectations from age 14 to 26 did not vary by SES. The growth in socioeconomic inequality of expectations observed by Anders (2017) and Park et al. (2015) was related to asymmetric reactions toward achievement feedback, with students from high-SES families being more likely to raise their expectations in response to improved academic achievement (Anders, 2017).

A number of studies found gender differences in expectation change with male students showing more negative or less positive change of their educational expectations than female peers (May & Witherspoon, 2019; Mello, 2008), although gender differences tended to be quite small and were not consistently found across available studies (e.g., Perkins, 2017). Possible gender differences in students’ expectations have been explained by related differences in parental expectations and parental educational involvement (Wells et al., 2012).

## 2. Research Questions

In sum, the goal of the present meta-analysis was to integrate the results of available studies on change in educational expectations from childhood to emerging adulthood. The meta-analysis provides important knowledge on whether different kinds of students’ educational expectations tend to decline and whether there are subgroups that are more likely to downgrade their expectations than others.

Given the fact that many young people have overly positive expectations about their future educational attainment (e.g., Bucklew et al., 2013; Jerrim, 2014), the first research question asked whether students’ educational expectations tend to decline, on average, over time.

Within a defined interval, such as a semester or an academic year, students are more likely to receive clear achievement feedback regarding their future grade at the end of the respective time span (e.g., through midterm exams or teacher feedback on completed assignments; Jensen & Moore, 2008) than about their chance of attaining a final academic degree in the more distant future. Thus, there are more triggers for change in grade expectations than in expectations about the final academic degree, which could lead to stronger change of the former expectation. Therefore, the second research question asked whether grade expectations show, on average, stronger declines than expectations about the final academic degree. As the time intervals between repeated assessments of expectations varied between studies, we analyzed standardized scores addressing change within one year.

As older students may be more responsive to negative feedback about their educational prospects (Park et al., 2015; Muenks et al., 2018), the third research question asked whether the amount of expectation change varies by student age. Given the fact that two studies found an inverted u-shaped statistical effect of age on expectation change (Dauber, 1994; Mello, 2008) while some others found linear age effects with stronger declines in older samples (Alexander et al., 2008; Anders & Micklewright, 2015; Geagea et al., 2019), we searched for a linear as well as a quadratic age effect.

Based on the work on SES differences in change of educational expectations (Anders, 2017; Diemer & Hsieh, 2008; Park et al., 2015), the fourth research question asked whether students from low-SES families show stronger declines of educational expectations than students from other families. Building on May and Witherspoon (2019) and Mello (2008), the fifth research question asked whether studies with a higher percentage of male students report stronger declines of educational expectations.

A cross-national analysis by Jerrim (2014) found larger discrepancies between the percentage of students who expect to attain a college degree and the factual national rates of college completion in the U.S. and in Canada compared to other countries such as Germany, the U.K., and Sweden. The author explained the high expectation-achievement gap in the U.S., amongst others, by government policy which encouraged more young people to consider attending college even if they do not have sufficient financial resources for college completion. Higher expectation-attainment gaps should cause stronger pressure for adjusting overly high educational expectations. Therefore, the sixth research question asked whether young people from the U.S. and Canada would be more likely to reduce their educational expectations over time compared to peers from other countries.

Expectations about a future grade or the highest final educational attainment are usually assessed with single-item indicators which show face validity, although answers of some students may be biased in the direction of socially desirable high expectations. Given the similarities in the assessments across available studies, we were not able to test for moderating effects of the kind of measure used. However, some pieces of information were available on the external validity of the sample – whether a nationally representative sample was used – and the attrition rate (as attrition creates a risk for bias when individuals who drop out have unique characteristics that are relevant to the phenomenon of interest, such as low academic achievement; Nunan et al., 2018). Another potential source of bias is the file-drawer problem resulting from a reduced probability of getting nonsignificant results with very small effect sizes published. Nonetheless, available meta-analyses do not consistently find smaller effect sizes in unpublished as compared to published studies (Wagner, in press). For testing possible moderating effects of these methodological criteria, the final research question asked whether the size of expectation change differs by the (initial) representativeness of the sample, dropout rate, and between published versus unpublished studies.

### 3. Methods

#### 3.1 Study Selection

Studies were identified by a systematic search in the databases ERIC, PsycInfo, PSYINDEX, and Web of Science (search terms: (expectation OR expectanc\*) AND (student OR pupil OR child OR adolescent) AND education AND longitudinal). In addition, the reference sections of the identified papers were searched for additional studies. Studies were included if they:

- a) repeatedly assessed students' educational expectations about future grades, future performance in an academic test, and/or the highest final educational degree one anticipates to accomplish,
- b) provided sufficient information for computing standardized change of the expectation (e.g., means and standard deviations), and
- c) have been published or made available online before November, 2021.

Studies were excluded if they

- a) assessed hopes or aspirations rather than expectations (as expectations tend to be more realistic than hopes and aspirations, and should, therefore, be distinguished from expectations; Reynolds & Pemberton, 2001),
- b) assessed expectations of parents or teachers, rather than of students,
- c) assessed only immediate expectation change during participation in an experiment, or
- d) provided only multivariate results in which change scores have been adjusted for effects of third variables (e.g., SES) because bivariate and multivariate effect sizes cannot be combined in meta-analysis (Schmid et al., 2020).

Unpublished studies that were identified by the literature search were included if they fulfilled the inclusion criteria. No language restrictions were applied, but only three studies not written in English fulfilled the inclusion criteria. The final literature search was completed on October 31<sup>st</sup>, 2021. The meta-analysis was conducted according to the PRISMA guidelines. We identified 1,517 papers. After screening and assessing for eligibility, we included 91 studies in our meta-analysis. The PRISMA flow chart is given in Figure 1 and information on the included studies is provided as supplementary online information S1 and S2.

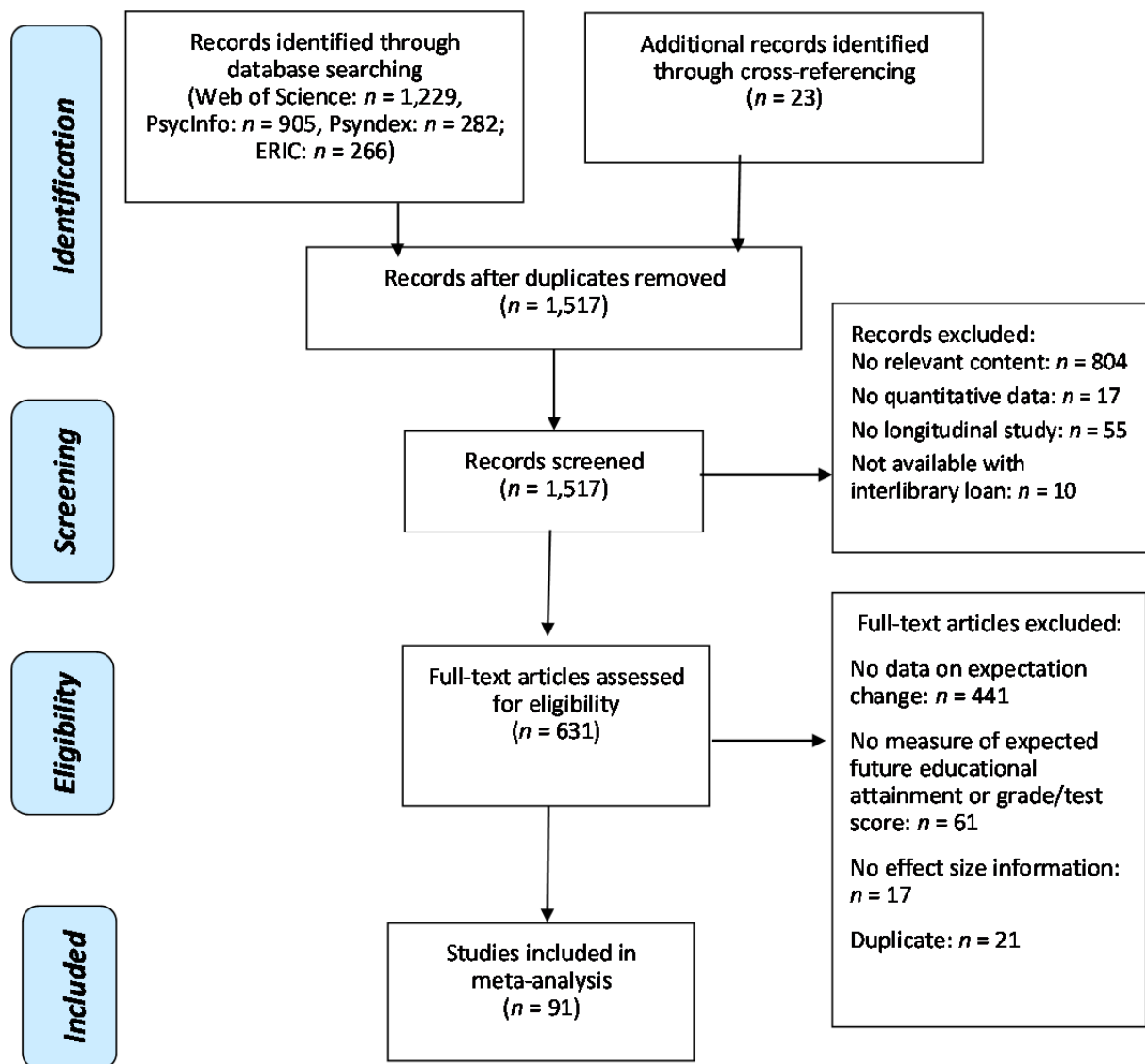


Figure 1. PRISMA Flow Diagram

The following data were entered: country of data collection, number of participants, mean age (in years), percentage of female participants, percentage of participants who belonged to an ethnic minority, use of a nationally representative sample (1 = no, 2 = yes), SES (1 = most or all participants from families of low SES, 2 = most or all participants from families of high SES, 3 = mixed SES or SES not reported), response rate, publication status (1 = unpublished, 2 = published), kind of expectation (1 = grade/test score, 2 = final educational degree), and yearly standardized change in educational expectations (in standard deviation units). Positive scores indicate that expectations increased and became more ambitious.

All studies were coded by the first author. In addition, a random sample of 50% of the studies was also coded by a graduate student with experience in meta-analysis. The mean interrater reliability (intraclass correlation coefficient) was .84. Differences between the two coders were resolved by discussion. As our meta-analysis only analysed already existing data, no approval from an ethical board was needed.

### 3.2 Statistical Analysis

The amount of expectation change was calculated as the difference between post-test score and pre-test score, divided by the standard deviation (*SD*) at pre-test. As the size of change that refers to different time intervals would

be difficult to compare, we computed standardized change per year. For example, if data were reported for a one-semester interval, the change score from this study was doubled. The effect sizes were transformed to Hedges'  $g$  that corrects for bias due to small sample size. Outliers that diverged by more than two  $SD$ 's from the mean effect size were set to values of two  $SD$ 's from the mean in order to avoid a disproportional effect on the weighted mean scores (Schmid et al., 2020). To address dependency in effect sizes if studies provided more than one effect size per sample (e.g., when reporting three yearly assessments), we applied hierarchic meta-analysis (Cheung, 2014). This approach allows for multiple effect sizes per study by considering that effect sizes (change scores; Level 1) are nested within samples (Level 2) that are nested within studies (Level 3). Thus, three-level meta-analyses consider that multiple effect sizes derived from the same source are correlated and, at the same time, disentangle the different sources of variability of these effect sizes. Random-effects models were computed that consider variation of the estimated effect sizes because of real differences as well as sampling error (chance).

For testing moderating effects of continuous variables and categorical variables (e.g., high vs. low SES), the potential moderator variables were entered as predictors at Level 2 or 3, respectively. The latter approach allows for comparing mean change scores between subgroups, as is otherwise done in analysis of variance. The analyses were computed with the metafor package in R (Viechtbauer, 2010).

A trim-and-fill analysis was computed for testing whether our results may be influenced by publication bias (Duvall & Tweedie, 2000). The goal of this method is to identify and correct for funnel plot asymmetry. The funnel plot (a scatter plot with studies' effect sizes on the horizontal axis and their standard errors on the vertical axis) is supposed to be symmetrical if no publication bias occurs. Trim-and fill provides bias-adjusted mean effect sizes by imputing results of possibly missing studies that would be necessary for producing a symmetrical funnel plot.

#### 4. Results

The 91 studies provided data on 183,301 individuals. At the first assessment, they had a mean age of 16.17 years ( $SD = 2.56$ , range 10.5 to 21.5); 50.6% were female and 36.7% belonged to an ethnic minority. Sixty-eight studies provided data for one interval while the others reported results for up-to seven yearly intervals.

Regarding the first research question, a model without Level 2 predictor variables estimated a weighted mean yearly expectation change of  $g = -.39$  standard deviation units (Table 1), indicating that students' expectations became less positive over time. There was significant variation between effect sizes of the individual studies ( $Q(415) = 8013.87$ ,  $p < .001$ ), thus indicating a need for searching moderator variables that affect the size of statistical effects. Most of the variance reflected variation between studies (95.7%), with 3.9% of the variance reflecting between-sample variance (from studies consisting of more than one sample) and 0.4% of the variance reflecting within-sample variation (from studies providing data on more than one interval). Trim-and-fill analysis did not find hints of a possible underestimation of expectation change due to publication bias.

For analyzing whether the size of change differs between studies that assessed expectations about future grades/future test scores versus the highest future educational attainment, we specified a dummy variable at Level 3, comparing change scores between both kinds of studies. The moderator effect of the Level 3 variable was statistically significant (Table 1). While the weighted mean yearly change of grade expectations was  $g = -.731$ , the mean yearly decline of expectations about the highest future attained educational degree was much smaller ( $g = -.022$ ). Due to the observed differences in change of expectations about grades in the near future versus the final educational degree attained in the more distant future, the next research questions were analyzed separately with regard to both kinds of expectations.

Table 1. Estimated mean change of students' educational expectations

Correlates	$g$	95%-CI		$t$	$df$	$F$
Total change	-.386	-.528	-.245	-5.36***	414	
Comparison expectations about future grades and final educational attainment						56.64***
Future grade or test performance	-.731	-.966	-.496	-6.19***	91	
Final educational attainment	-.022	-.039	-.006	-2.67**	323	

Note.  $g$  = weighted mean expectation change, 95%-CI = confidence interval of  $g$ ,  $t$  = test for the significance of the correlational coefficient,  $df$  = degrees of freedom,  $F$  = test for between-group difference. \*\*  $p < .01$ , \*\*\*  $p < .001$ .

For analysing age differences in expectation change, we specified a Level 2 model with linear and quadratic effects of age. As shown in Table 2, we did not find significant moderating effects of age on change in expectations about future grades. However, age moderated the size of change in expectations about the final educational degree. As shown in Figure 2, declines in expectations became slightly stronger across adolescence until the age of 20 years, followed by a weaker decline in the early 20s.

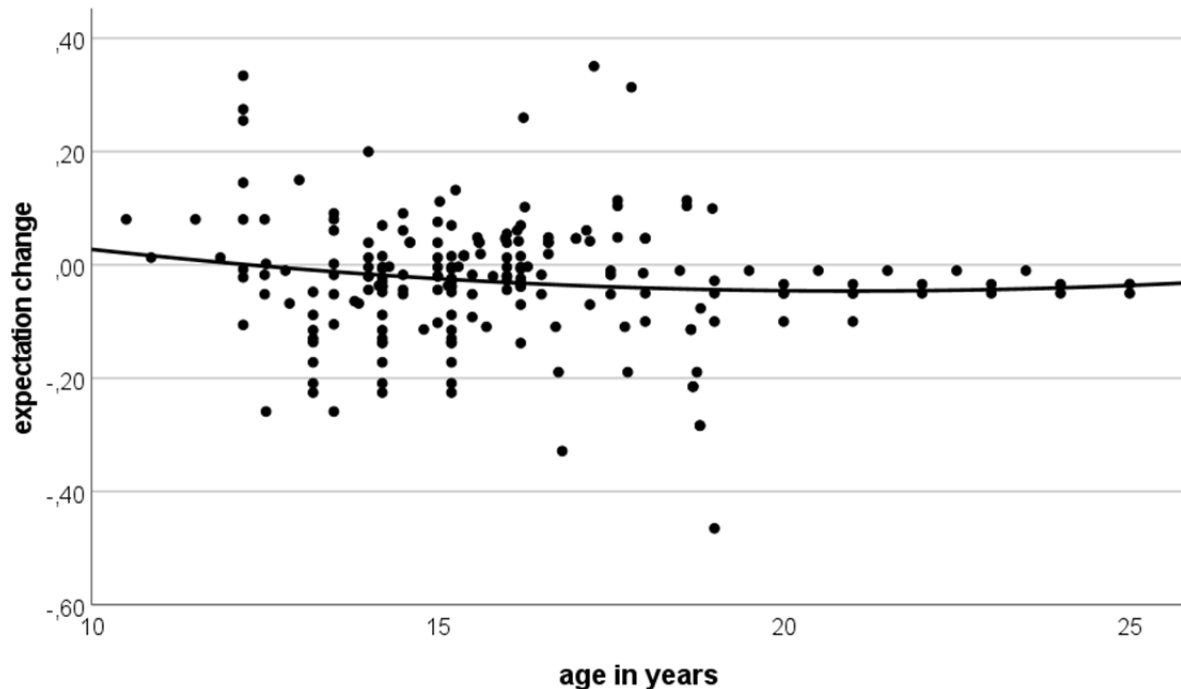


Figure 2. Yearly change of expectations about the highest future educational attainment (in standard deviation units)

For analysing moderating effects of SES, we specified a new level-2 model that contrasted students from high-SES versus low-SES families. About 55% of the available studies had to be excluded from this analysis as they did not provide separate data on expectation change in both groups of families. We found that levels of expectation change did not vary significantly between samples from low-SES versus high-SES families (Table 2). There were also no moderating effects of child gender.

For cross-national comparisons, we specified a Level-3 dummy variable that contrasted studies from the U.S. and Canada with other studies. We found a moderating effect of this country variable on change in expectations about the final educational degree (Table 2). While expectations decreased in studies from the U.S. and Canada ( $g = -.040$ , 95%-confidence interval [CI]  $-.068$  to  $-.011$ ,  $t = -2.71$ ,  $p < .01$ ), we found no such change in studies from other countries ( $g = .009$ , CI  $-.028$  to  $.055$ ,  $t = .38$ ,  $p < .71$ ). No significant moderating effect of country appeared in the analysis on change of expectations about future grades.

With regard to study quality, results did not vary between studies with (nationally) representative community-based samples and other studies. Regarding a possible moderating effect of attrition rate, Bankhead et al. (2017) suggested as a rule of thumb that an attrition rate of  $\geq 20\%$  would pose serious threats to validity. However, tests for moderating effects did not find significant differences between studies with high versus low attrition rate. Similarly, the size of expectation change did not vary between published and unpublished studies (Table 2).

Table 2. Analysis of moderator effects of study variables on the amount of expectation change

Predictor variables	Change in expectations about future grades/test performance				Change in expectation about future highest educational attainment			
	Coefficient	T-ratio	df	p	Coefficient	T-ratio	df	p
Linear age effect <sup>1</sup>	.055	.62	89	.54	-.019	-2.01	320	.05
Quadratic age effect <sup>1</sup>	-.005	-1.42	89	.16	.001	2.02	320	.05
SES (2 = high, 1 = low)	.040	.58	32	.57	-.032	-.97	151	.34
% male students	.004	.88	65	.39	-.000	-.11	320	.91
Country (2 = U.S./Canada, 1 = others)	-.350	-1.27	90	.21	-.047	-2.60	331	.01
Representative community-based sample (2 = yes, 1 = no)	-- <sup>2</sup>				.003	.15	321	.89
Attrition rate (2: < 20%, 1: ≥ 20% or not reported)	.124	1.23	90	.23	.036	1.96	321	.06
Publication status (2 = published, 1 = unpublished)	.384	1.35	90	.18	.034	1.86	321	.07

Note. T-ratio = test for the significance of the moderator variable, *df* = degrees of freedom, *p* = level of significance. <sup>1</sup> Both variables were entered simultaneously in the analysis. <sup>2</sup> All studies on grade expectations used convenience samples.

#### 4. Discussion

The present study reports the results of the first meta-analysis on change of expected future grades and expected final educational attainment from late childhood to emerging adulthood. While yearly declines of expectations about the final educational degree were found to be very small in a statistical sense (Cohen, 1992), there were moderate-to-large declines of expectations about future grades or performance in an academic test. Change in expectations about the final educational degree varied by student age and between countries while there were no significant moderating effects of SES, gender, representativeness of the sample, attrition rate, or publication status.

As hypothesized, there was a substantially stronger decline of expectations about a future grade than about the final educational degree in the distant future, probably reflecting clearer and stronger negative feedback about the attainability of the initially expected high grades than about long-term educational prospects (Foster et al., 2017; Jensen & Moore, 2008). The fact that the mean yearly decline in expectations about the final educational degree was only very small indicates that there is minor *change* (in line with proponents of learning theories; Andrew & Hauser, 2011; Carolan, 2017), although mean levels of expectations remain rather *stable* (as suggested by the Wisconsin model of socioeconomic attainment; Sewell et al., 2004). Another meta-analysis had reported high correlational stability of students' educational expectations of  $r = .50$  (Pinquart & Ebeling, 2020a).

When interpreting the mean moderate-to-large decline of grade expectations by  $-.73 SD$ , we have to be aware that this score refers to estimated change across the interval of one academic year. Thus, mean change within one semester would be about  $-.37 SD$ , which indicates, on average, small change (Cohen, 1992).

One might ask whether the observed very small mean yearly change of expectations about the finally attained academic degree is of any practical relevance. As we analysed data across a 15-year interval (from the earliest age at start of a study until the latest age at the end of a study), mean declines of  $-.022$  standard deviation units per year would add up to about  $-.33 SD$ , which would indicate a small effect size (Cohen, 1992). Mean declines of expectations of students from the U.S. and Canada would even add up to  $-.51 SD$  – a moderate effect size that is of practical relevance (Cohen, 1992).

As Jerrim (2014) noted that the average difference between expected and factual attainment of a college degree of U.S. students was 27% (when using data from the PISA study) and 37% (when using data from the Trends in Mathematics and Science Study), one could ask why mean changes of expectations tend to be rather small or even very small when looking at shorter intervals. A first reason might be that larger numbers of students who gave up their college expectation did not provide data on expectation change because of dropping out of the educational

system and, therefore, not participating at the follow-up assessment of high-school-based or college-based longitudinal studies. A second reason might be that students could maintain high expectations despite disconfirming evidence, for example when believing that, even if they cannot start or complete college or attain an advanced college degree in the near future, they may finally succeed at a later age (Wyatt, 2011). Thus, they may immunize their expectations against present disconfirming feedback (Panitz et al., 2021) and may or may not change their expectations at a later age after the early twenties.

In line with Mello (2008), we found evidence for an inverted u-shaped change of expectations about the final educational attainment with strongest expectation change around the age of 20 years. This supports the notion that overly positive expectations become (slightly) less positive across adolescence, indicating that young people become increasingly more aware of barriers that limit the chance of fulfilling high expectations (Park et al., 2015; Muenks et al., 2018). Expectations tended to change less in the early 20s after gaining a foothold in college or after leaving the educational system. Nonetheless, we observed still very small average declines in the early 20s, possibly due to students who noticed that they are not meeting the academic requirements at college, who lose interest in studying or whose financial resources may not be sufficient for staying at college (Heublein, 2014).

Although students from low-SES families tend to have a lower chance of fulfilling high educational expectations (Anders, 2017; Diemer & Hsieh, 2008), we did not find a moderating effect of SES on the size of expectation change. However, only a minority of studies had provided separate data from low-SES and high-SES families, which reduced the statistical power of our analysis. In addition, many studies have been conducted with college students who were probably more homogeneous in their expectations about the final educational degree as the studies included only those students from families of low SES who succeeded with entering college.

The present meta-analysis indicates that stronger gaps between expectations of attaining a college degree and factual rates of college completion in the U.S. and Canada (Jerrim, 2014) lead to stronger adjustment of students' expectations compared to students from other countries. Although some students from other countries also change their expectations over time, decreases and increases in expectations are more balanced in the other countries (Anders & Micklewright, 2015; Tynkkynen et al., 2012).

There was no moderating effect of gender composition of the sample. As only a small minority of studies had provided separate results on male and female students, it was difficult to identify a moderator effect of gender. The lack of moderating effects of representativeness of the sample, attrition rate, and publication status indicate that our results were robust with regard to these characteristics.

## 5. Limitations and Conclusions

The following limitations of our meta-analysis have to be mentioned. First, educational expectations were usually assessed with single-item indicators that are less reliable than multi-item indicators (Spörrle & Bekk, 2014). Second, no longitudinal data were available on the first years of elementary school. Third, there were more studies on change in expectations about the final educational attainment than about change in expectations about the grade in a future exam, which results in lower test power in the latter analyses. Fourth, the identification of moderating effects of SES was also complicated because most studies had not provided separate effect sizes for students from families of high versus low SES.

Despite these limitations, the following conclusions are drawn from the present meta-analysis. First, we conclude that positive expectations about grades in the near future are more likely to be reduced than expectations about the final educational attainment in the distant future, probably because students get clearer expectation-disconfirming feedback about the chance of fulfilling grade expectations than about their chance of attaining an academic degree at a later age. Second, we conclude that a weak trend to reduce one's expectations about a future educational degree is only observed in countries with the highest expectation-achievement gap – as observed in the U.S. and Canada. Students from other countries tend to be, on average, more realistic about their future educational prospects and are, therefore, less in need for downgrading their expectations. Third, we conclude that there is not a typical age for changing one's educational expectations, as such changes were observed across adolescence and into emerging adulthood. Nonetheless, reductions of expectations were most obvious in late adolescence—a time when typical students make their transition from high-school to university or to an apprenticeship and/or a job in the non-academic field, respectively. Fourth, with regard to future research needs, it would be interesting to gain more knowledge about triggers of expectation change, for example regarding the role of academic performance feedback, success in college entrance tests, changes in parental financial circumstances or in college fees. Similarly, more empirical research is recommended on processes that contribute to the persistence of educational expectations despite disconfirming evidence. Fifth, positive educational expectations tend to be socially desirable (Jerrim, 2014) and may be a source of striving for success but may also be a source of academic stress and



disappointment (Pinquart & Ebeling, 2020a). Thus, it would be difficult to give a general recommendation on how to deal with overly positive expectations. An intervention study that directed students' attention on risks of unrealistic educational expectations and benefits of lowering them did not result in downgraded expectations but instead in lower academic achievement compared to a no-treatment control condition (Hall & Sverdlik, 2016). Thus, students may be recommended to keep their positive expectations about future educational achievement as long as the benefits outweigh harm.

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### Supplement S1: Selected Characteristics of the Included Studies

Authors	N	Age	% female	Kind of expectation
Aceves et al. (2020)	543	10.9	50	final academic degree
Alexander & Entwisle (1988, Black)	442	.	49	grade
Alexander & Entwisle (1988, White)	369	.	51	grade
Almroth (2019)	3,501	13.0	51	final academic degree
Anders & Micklewright (2015)	8029	13.5	.	final academic degree
Andres et al. (2007, men)	501	18.0	0	final academic degree
Andres et al. (2007, women)	502	18.0	100	final academic degree
Andrew & Flashman (2017)	1,069	.	50	final academic degree
Andrew & Hauser (2011; African American)	759	.	53	final academic degree
Andrew & Hauser (2011; Caucasian)	6,903	.	50	final academic degree
Andrew & Hauser (2011; Hispanic)	1,073	14.2	53	final academic degree
Baker & Entwistle (1987, boys middle class school)	165	.	0	grade
Baker & Entwistle (1987, girls, middle class scho)	174	.	100	grade
Baker & Entwistle (1987; boys,working class school)	132	.	0	grade
Baker & Entwistle (1987; girls, working class school)	154	.	100	grade
Barr & Simons (2012)	307	19.0	100	final academic degree
Beutel & Anderson (2008, Blacks)	87	16.7	53	final academic degree
Beutel & Anderson (2008; Coloured)	298	15.7	50	final academic degree
Beutel & Anderson (2008; Whites)	122	15.4	52	final academic degree
Bol & Hacker (2001)	59			academic test score
Bozick et al. (2010)	790	.	51	final academic degree
Bravo et al. (2014)	205	16.2	100	final academic degree
Bravo et al. (2017)	164	18.0	100	final academic degree
Broton et al. (2019)	213		62	final academic degree
Buckelew et al. (2013)	148	20.2	67	grade
Burns (2004)	378	.	.	grade
Burns (2007)	376	.	.	grade
Carlson (2016, sample 1)	1,274	16.0	61	final academic degree

Carlson (2016, sample 2, became parents)	1,541	15.6	58	final academic degree
Carroll et al. (2016, healthy group)	10,790	18.6	54	final academic degree
Carroll et al. (2016, physical health impairment)	420	18.8	56	final academic degree
Carroll et al. (2016, mental health impairment)	550	18.4	53	final academic degree
Chapman (1988, learning disability)	78	11.3	38	grade
Chapman (1988, no learning disability)	71	11.3	41	grade
Chen et al. (2007)	1,237	.	54	final academic degree
Chinta (2005)	365	.	.	grade
Chung et al. (2016)	264	.	59	grade
Churchman (1971)	170	19.4	76	grade
Cole (2014)	257	19.9	53	grade
Crosby & Ohlendorf (1973)	154	.	0	final academic degree
Dauber (1994)	563	.	56	final academic degree
Deaton et al. (1976, mastery A group)	114	.	.	grade
Deaton et al. (1976, mastery B group)	77	.	.	grade
Deaton et al. (1976, traditional group)	112	.	.	grade
De Bruin et al. (2017)	226	20.5	68	grade
Dickhäuser et al. (2009)	197	15.6	50	grade
Dochowa & Neumeyer (2021)	6,053	.	.	final academic degree
Elias & Daza (2019)	2,056	15.0	47	final academic degree
Entwisle & Hayduk (1975, White)	43	.	.	grade
Entwisle & Hayduk (1975; African-American)	68	.	.	grade
Falkenstein (2018)	131	20.9	70	grade
Fernandez-Reino & Creighton (2016; African)	306	14.0	52	final academic degree
Fernandez-Reino & Creighton (2016; Black Caribbean)	269	14.0	53	final academic degree
Fernandez-Reino & Creighton (2016; British Bangladeshi)	218	14.0	55	final academic degree
Fernandez-Reino & Creighton (2016; British Indian)	261	14.0	48	final academic degree
Fernandez-Reino & Creighton (2016; British Pakistani)	294	14.0	50	final academic degree
Fernandez-Reino & Creighton (2016; Whites)	2,511	14.0	50	final academic degree
Fleishman (2013)	476	17.5	57	final academic degree
Foster et al. (2017)	87			grade
Freelin & Staff (2020)	13,060	.	50	final academic degree
Garces-Ozanne & Sullivan (2014)	196	19.3	55	grade
Geagea et al. (2019, control group)	88	.	64	final academic degree
Geagea et al. (2019, creative arts group)	88	.	64	final academic degree
Greenway et al. (2015, study 2)	1,335	15.0	50	final academic degree
Grimes (2002)	253	20.5	0	grade
Guest & Riegler (2017)	78	.	19	grade
Guillaume & Khachikian (2011), Khachikian (2011)	231	.	.	grade

Hacker et al. (2000)	99	.	.	test performance
Hacker et al. (2008)	130		84	test performance
Hall & Sverdlik (2016, control group)	17	18.3	62	grade/achievement
Heß et al. (2019)	12,574	11.0	48	final academic degree
Hossain & Tsigaris (2015)	169	.	.	grade
Imes (2008, African-American)	943	.	49	final academic degree
Ingels & Dalton (2013)	18,507	.	.	final academic degree
Jacobs (2014)	230	21.5	67	grade
Jensen & Moore (2008)	278	.	49	final academic degree
Jensen & Moore (2008)	278	19.0	49	grade
Johnson & Reynolds (2013, college senior cohort)	5,730		51	final academic degree
Johnson & Reynolds (2013, older cohort)	2,788		51	final academic degree
Jones et al. (2010)	363		22	grade
Kennett (1994)	24		.	grade
Kiang et al. (2015)	157		60	final academic degree
Lawson et al. (2020)	674	12.8	50	final academic degree
Linver (1998)	868		56	final academic degree
Mahler et al. (2018)	1,165	15.3	0	final academic degree
Mau & Bikos (2000, female Asian American)	172		100	final academic degree
Mau & Bikos (2000, female Black)	772		100	final academic degree
Mau & Bikos (2000, female Caucasian)	4,089		100	final academic degree
Mau & Bikos (2000, female Hispanic)	512		100	final academic degree
Mau & Bikos (2000, male Asian American)	190		0	final academic degree
Mau & Bikos (2000, male Black)	735		0	final academic degree
Mau & Bikos (2000, male Caucasian)	4,079		0	final academic degree
Mau & Bikos (2000, male Hispanic)	453		0	final academic degree
May & Witherspoon (2019), Andrew & Hauser (2011; Hispanic)	1,371	16.2	53	final academic degree
Mazenod et al. (2019)	4,408		49	final academic degree
McCormick (1997)	9,163			final academic degree
Mello (2008, men)	4,871	20.0	0	final academic degree
Mello (2008, women)	5,493	20.0	100	final academic degree
Miller & Geraci (2011, study 2)	86		74	grade
Murstein (1965)	75			grade
Nederhand et al. (2020)	219	14.0	55	grade
Novarese (2009)	57	.	.	grade
Ng (2014, men)	202		0	grade
Ng (2014, women)	217		100	grade
O'Hara et al. (2012)	750	.	.	final academic degree
Park et al. (2015)	11,815	16.2	51	final academic degree

Perez-Brena et al. (2017)	246	12.5	51	final academic degree
Perkins (2017)	920	12.2	100	final academic degree
Rimkute et al. (2012)	203	13.5	50	final academic degree
Roche et al. (2016)	1,207	14.3	50	final academic degree
Rumbaut (1997, Cambodian-American)	88	14.2	46	final academic degree
Rumbaut (1997, Hmong-American)	50	14.2	46	final academic degree
Rumbaut (1997, Lao-American)	143	14.2	46	final academic degree
Rumbaut (1997, Mexican-American)	578	14.2	46	final academic degree
Rumbaut (1997, Philippino-American)	716	14.2	46	final academic degree
Rumbaut (1997, Vietnamese-American)	302	14.2	46	final academic degree
Saenz et al. (2017, study 1)	73			grade
Saenz et al. (2017, study 4)	70			grade
Serra & DeMarree (2016, study 3)	60			grade
Shepperd et al. (1996, study 2)	89	.	.	grade
Smith (2008)	169	21.4	59	grade
Steele & Eccles (1995, boys)	541	.	0	final academic degree
Steele & Eccles (1995, girls)	519	.	100	final academic degree
Stinebrickner & Stinebrickner (2009)	325	.	.	grade
Tomaszewski et al. (2021, cohort 1, high SES)	1,317	.	54	final academic degree
Tomaszewski et al. (2021, cohort 1, low SES)	1,385	.	54	final academic degree
Tomaszewski et al. (2021, cohort 2, high SES)	1,952	.	54	final academic degree
Tomaszewski et al. (2021, cohort 2, low SES)	2,647	.	54	final academic degree
Tseng (2021)	46			grade/success at school
Turner (2016)	315	.	66	grade
Tynkkynen et al. (2012)	853	16.0	48	final academic degree
Updegraff et al. (2012, female)	125	12.5	100	final academic degree
Updegraff et al. (2012, male)	121	12.5	0	final academic degree
Vernon et al. (2018)	450	.	58	final academic degree
Zhang (2012)	1,594	10.5	45	final academic degree

*Notes.* Alexander & Entwisle (1988) and Alexander et al. (1994) used the same sample but reported on different times of measurement. We used scores from the second wave of Alexander and Entwisle (1988) as pretest score for computing change in the Alexander et al. (1994) study. Bravo et al. (2014, 2017) used the same data but the latter study included an additional time point (with a few participants not included in the Bravo et al. (2017) paper). Data of the T<sub>1</sub>-T<sub>2</sub> interval were used from the former study and of later intervals from Bravo et al. (2017). Andrew and Hauser (2011) as well as May and Witherspoon (2019) used an, in part, overlapping sample. Change between grade 8 and 10 were taken from the former study (because not being reported in the latter) while change between grade 10 and 12 from the latter because of being based on a larger sample size. For the study by Guillaume and Khachikian (2011), an effect size was computed based on additional information from Khachikian and Guillaume (2011).

**Supplement S2: References of the Included Studies**

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