Appendix

Table A

Distribution of Final Sample Across Cohorts (N = 816)

Cohort	N	Year		
		2017	2018	2019
1	259	Grade 7	Grade 8	Grade 9
2	242	Grade 8	Grade 9	-
3	176	-	Grade 7	Grade 8
4	139	-	-	Grade 7
Total	816			

Note. The total sample consisted of participants who were at least present during one grade, and for participants who duplicated a grade, the data from the duplicate grade onwards was removed.

Table B

Means and Standard Deviations of Positive, Negative and Neutral Interpretation Scores per Grade

	Grade 7			Grade 8			Grade 9		
	N	M	SD	N	M	SD	N	M	SD
Positive interpretations	552	26.12	4.93	611	26.20	5.36	368	26.53	4.81
Negative interpretations	552	20.63	5.49	611	20.79	5.64	368	21.28	5.33
Neutral interpretations	552	26.67	4.54	611	27.28	4.66	368	28.27	4.15

Table C

Pearson's Correlations Between Attention Bias, Negative Interpretations, Social Anxiety, Self-Esteem, and Loneliness for Grade 7, Grade 8, Grade 9 (white), and Across Waves (grey) including Autocorrelations (black)

	Grade 7						Grade 8						Grade 9					
	1.	2.	3.	4.	5.	6.	1.	2.	3.	4.	5.	6.	1.	2.	3.	4.	5.	6.
Grade 7																		
1. AB eng.	--	-.23*	-.01	-.06	.02	-.07	.05	-.12*	.03	.02	.07	.05	.20*	.20*	.05	-.06	.03	-.02
2. AB diseng.		--	.06	-.01	-.08	.01	-.20*	.14*	.01	-.04	-.04	.02	-.20*	.11	.03	.15	.02	.16
3. Int. neg.			--	.47*	-.40*	.39*	.04	.01	.53*	.34*	-.27*	.24*	.01	.19*	.50*	.25*	-.19*	.21*
4. Social anx.				--	-.54*	.73*	-.04	.03	.31*	.65*	-.40*	.54*	-.09	.10	.40*	.48*	-.31*	.37*
5. Self-esteem					--	-.51*	.02	-.05	-.31*	-.53*	.66*	-.44*	-.04	-.15	-.24*	-.37*	.55*	-.30*
6. Loneliness						--	-.07	.03	.27*	.51*	-.35*	.63*	.03	.12	.31*	.42*	-.30*	.43*
Grade 8																		
1. AB eng.							--	-.23*	.00	-.02	.06	-.00	.11	-.11*	-.04	-.04	.04	.00
2. AB diseng.								--	.03	.02	-.02	.03	-.15*	.24*	.14*	.07	-.04	.05
3. Int. neg.									--	.49*	-.35*	.39*	-.01	.03	.55*	.38*	-.31*	.22*
4. Social anx.										--	-.56*	.69*	-.03	-.00	.42*	.69*	-.45*	.45*
5. Self-esteem											--	-.49*	.02	.04	-.31*	-.48*	.70*	-.35*
6. Loneliness												--	-.05	.02	.32*	.60*	-.41*	.59*
Grade 9																		
1. AB eng.													--	-.20*	-.07	-.01	-.02	-.03
2. AB diseng.														--	.08	-.04	-.07	-.10
3. Int. neg.															--	.45*	-.40*	.33*
4. Social anx.																--	-.57*	.71*
5. Self-esteem																	--	-.46*
6. Loneliness																		--

Note. AB eng. = attention bias engagement; AB diseng. = attention bias disengagement; Int. neg. = negative interpretations; Social anx. = social anxiety.
Sample size differs per correlation due to missing data.
* Significant correlation, $p < .05$.
$r = .10$ was considered as a weak, $r = .30$ as a moderate, and $r = .50$ as a strong effect (Cohen, 1988).

Part D

Exploratory Longitudinal Analyses

We also explored whether the results of the longitudinal model were similar if the negative interpretation scores were included in the model, instead of the interpretation bias difference scores. Using this alternative interpretation construct did not have an effect on the assumptions for linear regression analyses, there were still no major violations. The model construction was similar to our main analyses described in the results section of the manuscript. The same three models were tested with this alternative score of interpretation. The interaction terms in Model 3 were computed based upon the standardized bias difference scores of attention bias and the standardized negative interpretation scores by multiplying them with each other. We did this separately for attention bias enhanced engagement and delayed disengagement. The same fit criteria were used as in the original analyses to evaluate (the change in) model fit.

Direct Effects of Attention biases and Interpretation Bias on Social Anxiety

Model 1 had an appropriate model fit according to most fit indices except the chi-square, $\chi^2(90) = 212.68$, $p < .001$, RMSEA $= .04$, CFI $= .95$, SRMR $= .08$, AIC $= 22494.58$. Autoregressive effects for social anxiety, interpretation bias, self-esteem, and loneliness indicated moderate to high stability across grades (ranging between $\beta = .50-.66$). Attention bias disengagement was weakly to moderately stable over time ($\beta = .12-.21$), while autoregressive effects for attention bias engagement were all non-significant.

Different than in our original analyses, interpretation bias in grade 7 did not negatively predict the level of social anxiety symptoms in grade 8 ($\beta = .06$, $p = .08$). Also, this effect was not found from interpretation bias in grade 8 to social anxiety in grade 9 ($\beta = .04$, $p = .32$). None of the attention bias parameters predicted social anxiety over time. Within-grade correlations are not interpreted, for that we would like to refer to the findings of the Pearson correlations.

Associations among Attention biases and Interpretation Bias

Model 2 encompassing the direct effects between different biases had a comparable fit to Model 1, $\chi^2(82) = 209.04$, $p < .001$, RMSEA = .04, CFI = .95, SRMR = .08, AIC = 22506.94. Including the direct effects between attention biases and interpretation bias did not lead to a significant or substantial improvement in model fit compared to Model 1, $\Delta\chi^2(8) = 3.64$, $p = .889$, ΔCFI = .002, ΔRMSEA = -.003, ΔSRMR = .001, and ΔAIC = 12.35. Attention bias engagement and disengagement did not predict interpretation bias levels, nor did interpretation bias predict attention biases over time.

Interaction effect Attention biases and Interpretation Bias on Social Anxiety

When adding the interaction terms between attention biases and negative interpretations in Model 3, the model fit remained comparable to the first and second model, $\chi^2(126) = 285.56$, $p < .001$, RMSEA = .04, CFI = .94, SRMR = .07, and AIC = 28969.61. The model fit was significantly and substantially (according to CFI) worse than Model 1 ($\Delta\chi^2(36) = 72.88$, $p < .001$, ΔCFI = -.014, ΔRMSEA = -.002, ΔSRMR = -.010, and ΔAIC = 6475.03) and Model 2 ($\Delta\chi^2(44)$ = 76.52, $p = .002$, ΔCFI = -.012, ΔRMSEA = -.005, ΔSRMR = -.009, and ΔAIC = 6462.676). All four interaction effects were non-significant, indicating that attention biases and interpretation bias did not mutually predict social anxiety over time.

To summarize, Models 2 and 3 did not significantly improve the model fit, nor were these paths significant. Therefore, Model 1 functioned as our final model (see Figure E).

Figure E

Graphic Representation of Model 1 (Final Model including Negative Interpretations) with its

Standardized Regression Estimates (Beta Coefficients)
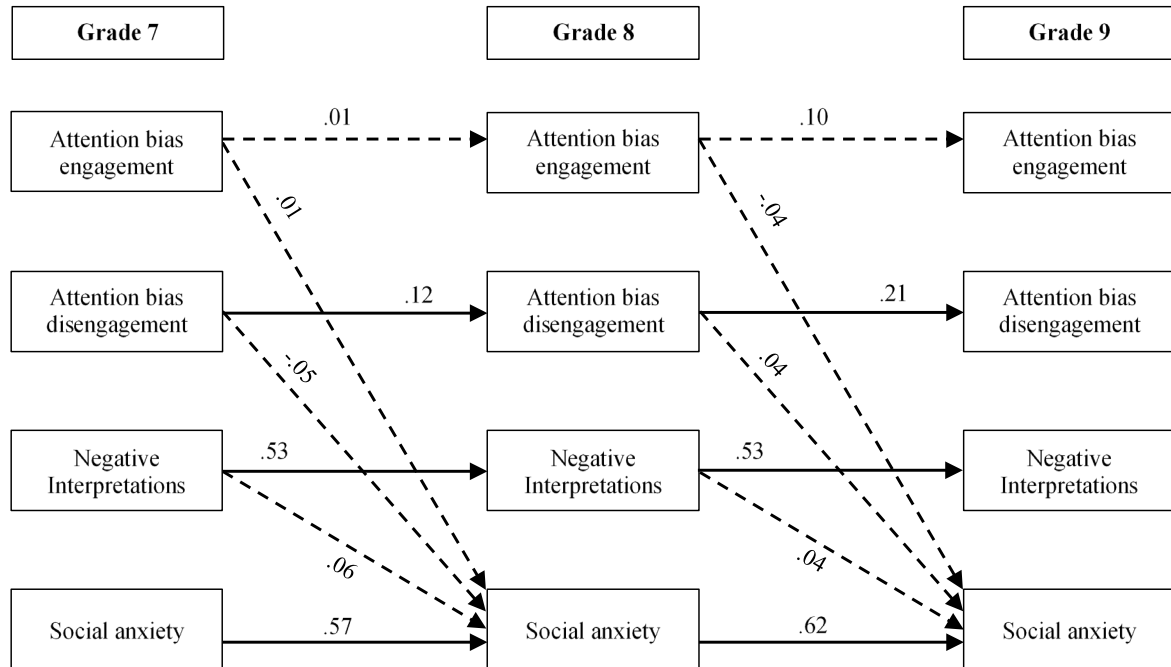
Note. Dashed paths represent non-significant paths; solid paths represent significant paths, *p* < .05.
β < .20 was considered as weak, β = .20-.50 as moderate, and β > .50 as strong effects (Acock, 2014).
For clarity of presentation, concurrent correlations between the variables, and the covariate paths with self-esteem and loneliness are not presented in this figure.