

Supplementary Materials

Developmental patterns of positive affect among preadolescents in primary school: A two-year latent growth analysis of peer, teacher, and family influences.

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Contents

1. Table S1. Item descriptions of variables of interest
2. Table S2. CFA results across variables and timepoints
3. Table S3. Longitudinal CFA for positive affect
4. Table S4. The goodness of fit statistics and parameter estimates for linear and quadratic growth models
5. Table S5. Fit indices of the unconditional and conditional linear growth models
6. Table S6. Parameter estimates from separate latent growth models with individual predictors of positive affect growth
7. Table S7. Parameter estimates from the conditional quadratic growth model
8. Figures S1-S3. Scatterplots depicting the relationships between variables at T1 and slopes of positive affect over time

Supplementary Material 1

Table S1 presents the item descriptions for the variables of interest, including Positive Affect, Peer Relationships, Teacher Sensitivity, and Family Satisfaction.

Table S1

Item descriptions of variables of interest

Construct	Items
Positive Affect	<ol style="list-style-type: none">1. Positive2. Good3. Pleasant4. Happy5. Joyful6. Contented
Peer Relationships	<ol style="list-style-type: none">1. Have you spent time with your friends?2. Have you had fun with your friends?3. Have you and your friends helped each other?4. Have you been able to rely on your friends?
Teacher Sensitivity	<ol style="list-style-type: none">1. Our teachers care about how we feel2. We can count on our teachers for help when we need it3. Our teachers consider pupils' feelings4. Our teachers take a personal interest in pupils5. Our teachers are available to help pupils when we have questions6. Our teachers take the time to completely answer our questions
Family Satisfaction	<ol style="list-style-type: none">1. I enjoy being at home with my family2. My family gets along well together3. I like spending time with my parents4. My parents and I doing fun things together5. My family is better than most6. Members of my family talk nicely to one another7. My parents treat me fairly

Supplementary Material 2

Table S2 presents the confirmatory factor analysis (CFA) results for PA across four timepoints (T1-T4) and for baseline (T1) predictors, including model fit indices.

Table S2

CFA results across variables and timepoints

Model	χ^2 (df)	<i>p</i> -value	CFI	TLI	RMSEA	SRMR
T1 Positive affect	9.830 (9)	.3644	.997	.995	.020	.021
T2 Positive affect	12.764 (9)	.1736	.990	.984	.042	.022
T3 Positive affect	28.026 (9)	.0009	.981	.968	.067	.022
T4 Positive affect	16.828 (9)	.0515	.990	.984	.045	.023
T1 Peer relations	1.181 (2)	.5539	1.000	1.000	.000	.012
T1 Teacher sensitivity	25.484 (9)	.0025	.947	.912	.090	.038
T1 Family satisfaction	58.473 (14)	.0000	.865	.797	.118	.058

Note. CFI = Comparative Fit Index. TLI = Tucker-Lewis Index. RMSEA = Root Mean Square Error of Approximation. SRMR = Standardized Root Mean Square Residual.

Supplementary Material 3

Table S3 presents the longitudinal CFA results for positive affect, showing model fit indices across configural, metric, and scalar invariance models.

Table S3

Longitudinal CFA for positive affect

Model	χ^2 (df)	<i>p</i> -value	CFI	TLI	RMSEA	Δ CFI	Δ RMSEA
Positive affect							
Configural	327.117 (246)	.0004	.965	.960	.033		
Metric	344.978 (261)	.0004	.963	.961	.033	.002	.000
Scalar	375.136 (276)	.0001	.957	.957	.035	.006	.002

Note. CFI = Comparative Fit Index. TLI = Tucker-Lewis Index. RMSEA = Root Mean Square Error of Approximation. Δ CFI = Difference in CFI between models; values $> .01$ support measurement invariance. Δ RMSEA = Difference in RMSEA between models; values $< .01$ support measurement invariance.

Supplementary Material 4

Table S4 presents the goodness-of-fit statistics and parameter estimates for linear and quadratic growth models of positive affect.

Table S4

The goodness of fit statistics and parameter estimates for linear and quadratic growth models

Measure	Model	CFI	TLI	RMSEA	SRMR	AIC	BIC	Intercept		Linear slope		Quadratic slope	
								Mean	Variance	Mean	Variance	Mean	Variance
PA	Linear	.982	.978	.035	.045	1629.457	1662.639	4.068*	.193*	-.020	.024*		
	Quadratic	1.000	1.000	.000	.052	1627.866	1664.736	4.032*	.196*	.078	.025*	-.032	.00

Note. * = $p < 0.05$. Bold values indicate the smallest value across the two models. PA = positive affect. CFI = Comparative Fit Index. TLI =

Tucker-Lewis Index. RMSEA = Root Mean Square Error of Approximation. SRMR = Standardized Root Mean Square Residual.

Supplementary Material 5

Table S5 presents the fit indices for the unconditional (without predictors) and conditional (with predictors) linear latent growth models (LGMs) of positive affect.

Table S5

Fit indices of the unconditional and conditional linear LGMs

Fit indices	χ^2 (df)	CFI	TLI	RMSEA	SRMR
<i>Positive affect</i>					
Unconditional	6.833 (5)	.982	.978	.035	.045
<i>Positive affect, Peer relations, Teacher Sensitivity, Family Satisfaction</i>					
Conditional	17.680 (11)	.968	.948	.045	.081
<i>Fit criteria</i>					
Good	$\chi^2 / df \leq 3$	$\geq .95$	$\geq .95$	$< .05$	$\leq .05$
Acceptable	$\chi^2 / df \leq 5$	$\geq .90$	$\geq .90$.50-1.0	$\leq .08$

Note. χ^2 = chi-square. (df) = degrees of freedom. CFI = Comparative Fit Index. TLI = Tucker-Lewis Index. RMSEA = Root Mean Square Error of Approximation. SRMR = Standardized Root Mean Square Residual.

Supplementary Material 6

Table S6

Parameter estimates from separate latent growth models with individual predictors of positive affect growth

Predictors of PA growth	β	p^{std}	B	SE	p^{unstd}
Model 1: Peer relationships					
Intercept PA	.596*	.000	.386*	.084	.000
Linear slope PA	-.370*	.012	-.087*	.035	.012
Model 2: Teacher sensitivity					
Intercept PA	.402*	.000	.251*	.059	.000
Linear slope PA	.105	.372	.024	.028	.387
Model 3: Family satisfaction					
Intercept PA	.731*	.000	.716*	.080	.000
Linear slope PA	-.227	.077	-.082	.047	.083

Note. PA = positive affect. β = standardized beta coefficient. p^{std} = p -value based on standardized estimates. B = unstandardized beta coefficient.

SE = standard error based on unstandardized estimates. p^{unstd} = p -value based on unstandardized estimates. * = statistically significant parameter

($p < .05$)

Supplementary Material 7

Table S7

Parameter estimates from the conditional quadratic growth model

Predictors of PA growth	β	p^{std}	B	SE	p^{unstd}
Intercept PA predicted by					
Peer relationships	.314*	.003	.228*	.088	.009
Teacher sensitivity	.158	.083	.115	.062	.065
Family satisfaction	.552*	.000	.594*	.096	.000
Linear slope PA predicted by					
Peer relationships	-.526*	.044	-.181	.107	.092
Teacher sensitivity	-.006	.985	-.002	.111	.985
Family satisfaction	-.301	.277	-.153	.143	.285
Quadratic slope PA predicted by					
Peer relationships	.547	.297	.030	.032	.352
Teacher sensitivity	.357	.525	.019	.033	.559
Family satisfaction	.434	.428	.035	.044	.424

Note. PA = positive affect. β = standardized beta coefficient. p^{std} = p -value based on standardized estimates. B = unstandardized beta coefficient.

SE = standard error based on unstandardized estimates. p^{unstd} = p -value based on unstandardized estimates. * = statistically significant parameter

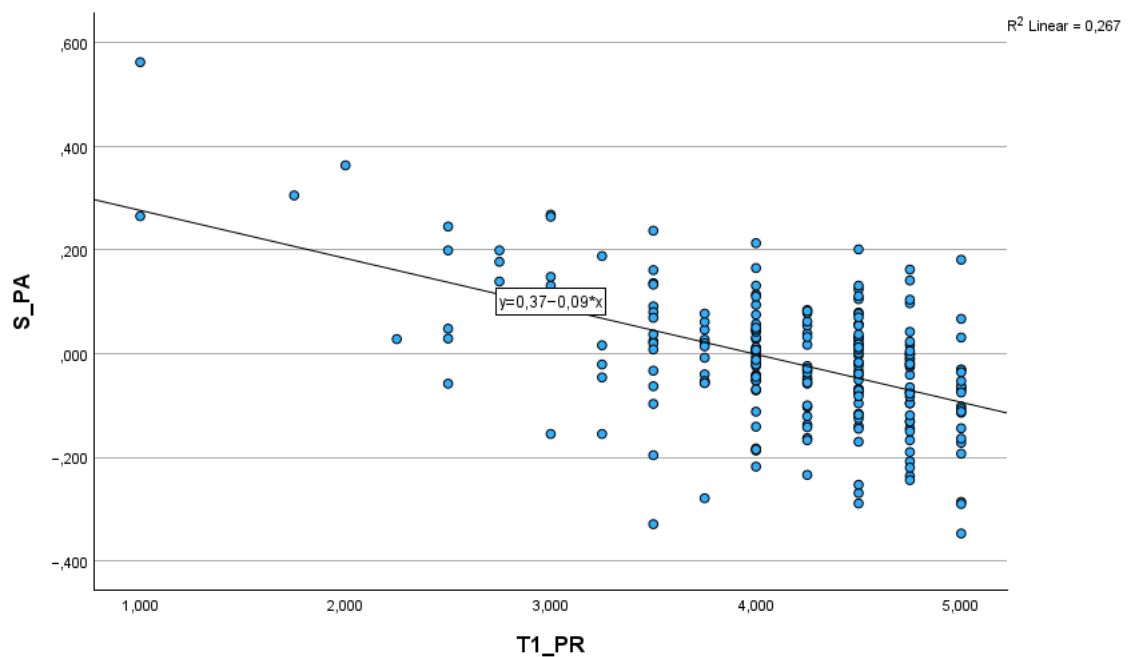
($p < .05$).

Supplementary Material 8

The following figures (S1–S3) present scatterplots from the linear LGM illustrating the relationships between various social-contextual factors at T1 and the slope of positive affect over time. Each point represents an individual participant. The solid line represents the estimated linear association between the predictor and slope PA.

Figure S1

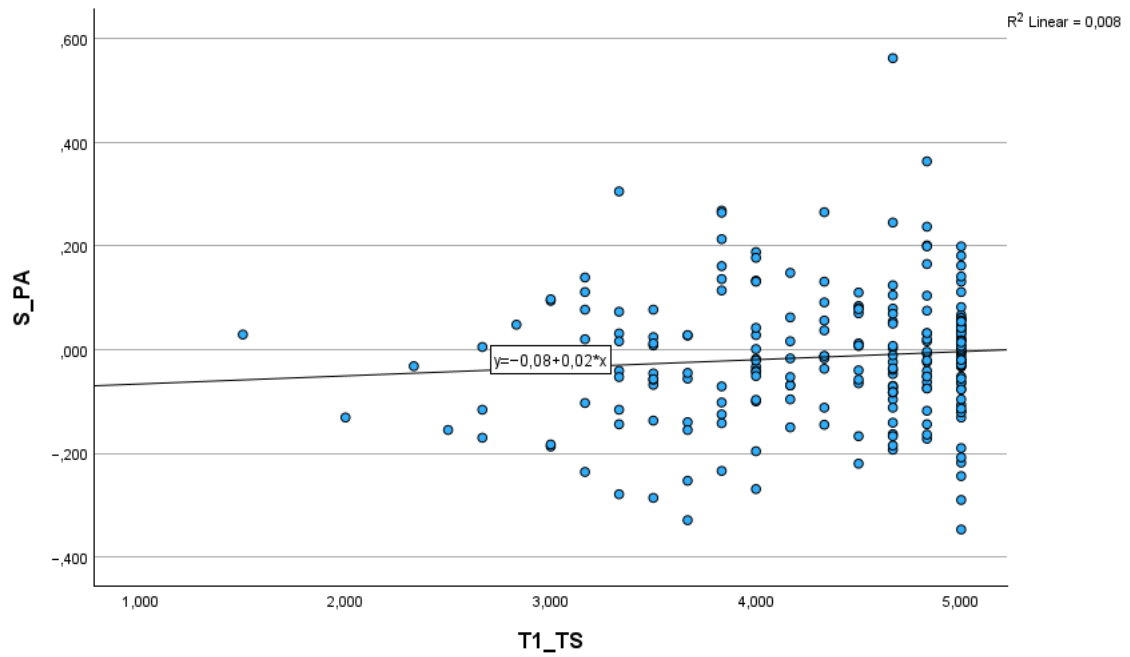
Scatterplot illustrating the relationship between Peer relations at T1 and positive affect slope over time



Note. S_PA = Slope PA. T1_PR = Peer relationship at T1.

Figure S2

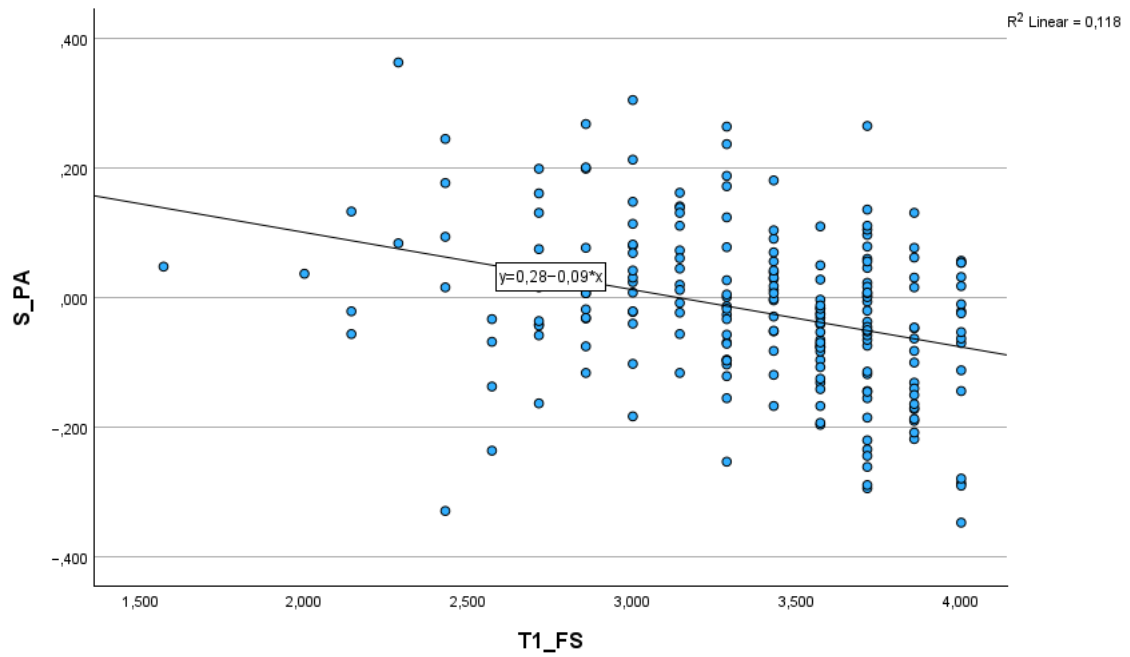
Scatterplot illustrating the relationship between Teacher sensitivity at T1 and positive affect slope over time



Note. S_PA = Slope PA. T1_TS = Teacher sensitivity at T1.

Figure S3

Scatterplot illustrating the relationship between Family satisfaction at T1 and positive affect slope over time



Note. S_PA = Slope PA. T1_FS = Family satisfaction at T1.