Sample Description – Schools

To provide a clearer overview of the schools included in the sample, Table S1 presents key data on each individual school. The information on school type, school size and the proportion of foreigners is taken from the school directory for schools in the federal state where the investigation took place (Federal State Statistical Office, 2024). The last two rows include the values of our total sample as well as comparative values for secondary schools of the academic track in the federal state where the investigation took place taken from the statistical report on general education schools (Federal Statistical Office, 2023) to assess whether the schools where the interventions took place are representative of the broader German school system.

Table S1

Characteristics of the Schools That Participated in the Study and Those of the Schools in the Federal State Where the Data Collection Took Place Overall

School	Geographical location	School size (number of students)	Gender (female)	Foreigners
School 1	Small town	911	51.9%	7.4%
School 2	Middle town	1332	53.4%	4.4%
School 3	Big city	758	63.3%	4.7%
School 4	Small town	1304	54.1%	3.8%
School 5	Small town	679	52.1%	8.2%
School 6	Village	372	47.8%	0.8%
School 7	Small town	771	53.6%	9.9%
School 8	Big city	577	51.3%	14.9%
School 9	Big city	904	45.8%	8.7%
School 10	Middle town	948	48.2%	12.3%
School 11	Small town	869	48.3%	1.8%
Total	–	857	52%	6.8%
Secondary schools of the academic track: Federal state	–	809	53%	7%

Note. Geographical location is divided into four categories according to population: village <5000 inhabitants, small town >5000 inhabitants, middle town >20000 inhabitants, big city >100000 inhabitants. Geographical location is not reported for the federal state where the interventions took place.

Measures

The items used in the pretest before the interventions (T1) and in the posttest after the interventions (T2) to measure the various constructs are listed below. The questionnaires were identical in both subjects, as each construct was asked for both subjects. The items of the individual scales were presented randomly. In the comparison modules (social, dimensional, temporal), the questions differ only in the knowledge quiz about the respective module.

Table S2

Items Used to Measure Students' Self-Concepts

Item	Students' self-concept in math	Students' self-concept in German
1	Auch wenn ich mir Mühe gebe, fällt mir Mathe schwer. *[Even though I try my best, math is hard for me.]*	Auch wenn ich mir Mühe gebe, fällt mir Deutsch schwer. *[Even though I try my best, German is hard for me.]*
2	Für Mathe habe ich einfach keine Begabung. *[I simply have no aptitude in math.]*	Für Deutsch habe ich einfach keine Begabung. *[I simply have no aptitude in German.]*
3	Mathe liegt mir nicht besonders. *[Math is not my thing.]*	Deutsch liegt mir nicht besonders. *[German is not my thing.]*
4	Mathe finde ich schwierig. *[I find math difficult.]*	Deutsch finde ich schwierig. *[I find German difficult]*
5	Bei einigen Dingen in Mathe weiß ich gleich: Das verstehe ich nie! *[With some things in math I know immediately: I will never understand this.]*	Bei einigen Dingen in Deutsch weiß ich gleich: Das verstehe ich nie! *[With some things in German, I know immediately: I will never understand this.]*

Note. Students responded to each item on a Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. All items were reverse-coded.

Table S3

Items Used to Measure Students' Social Comparison-Related Belief

Item	Students' social comparison-related belief in math	Students' social comparison-related belief in German
1	Um möglichst genau herauszufinden, wie gut ich in Mathe bin, sollte ich meine Mathe-Leistung am besten mit den Mathe-Leistungen der anderen Schülerinnen und Schüler in meiner Klasse vergleichen. *[To find out as accurately as possible how good I am at math, it is best to compare my math performance with the math performance of the other students in my class.]*	Um möglichst genau herauszufinden, wie gut ich in Deutsch bin, sollte ich meine Deutsch-Leistung am besten mit den Deutsch-Leistungen der anderen Schülerinnen und Schüler in meiner Klasse vergleichen. *[To find out as accurately as possible how good I am in German, I should compare my German performance with the German performance of the other students in my class.]*
2	Der Vergleich meiner Mathe-Note mit den Mathe-Noten der anderen Schülerinnen und Schüler in meiner Klasse eignet sich besonders gut, um meine Mathe-Fähigkeiten exakt einzuschätzen. *[Comparing my math grade with the math grades of the other students in my class is a particularly good way of accurately assess my math skills.]*	Der Vergleich meiner Deutsch-Note mit den Deutsch-Noten der anderen Schülerinnen und Schüler in meiner Klasse eignet sich besonders gut, um meine Deutsch-Fähigkeiten exakt einzuschätzen. *[Comparing my German grade with the German grades of the other students in my class is a particularly good way of accurately assessing my German skills.]*
3	Um ein realistisches Bild meiner Mathe-Fähigkeiten zu bekommen, sollte ich Vergleiche meiner Mathe-Leistungen nicht ausschließlich mit den Mathe-Leistungen von Schülerinnen und Schülern aus meiner Klasse durchführen. *[To get a realistic picture of my math skills, I should not compare my math performance exclusively with the math performance of students in my class.]*	Um ein realistisches Bild meiner Deutsch-Fähigkeiten zu bekommen, sollte ich Vergleiche meiner Deutsch-Leistungen nicht ausschließlich mit den Deutsch-Leistungen von Schülerinnen und Schülern aus meiner Klasse durchführen. *[To get a realistic picture of my German skills, I should not compare my German performance exclusively with the German performance of students in my class.]*
4	Wenn ich meine Mathe-Fähigkeiten besonders genau einschätzen möchte, sollte ich meine Mathe-Leistungen auch mit den Mathe-Leistungen von Schülerinnen und Schülern aus anderen Klassen und Schulen vergleichen. *[If I want to assess my math skills particularly accurately, I should also compare my math performance with the math performance of students from other classes and schools.]*	Wenn ich meine Deutsch-Fähigkeiten besonders genau einschätzen möchte, sollte ich meine Deutsch-Leistungen auch mit den Deutsch-Leistungen von Schülerinnen und Schülern aus anderen Klassen und Schulen vergleichen. *[If I want to assess my German skills particularly accurately, I should also compare my German performance with the German performance of students from other classes and schools.]*

Note. Students responded to each item on a Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. Items 1 and 2 were reverse-coded, items 3 and 4 were not used because of the unsatisfactory reliability.

Table S4

Items Used to Measure Students' Dimensional Comparison-Related Belief

Item	Students' dimensional comparison-related belief
1	Wer in Mathe gut ist, ist meist in Deutsch nicht so gut. *[Students who do well in math often do not achieve so well in German.]*
2	Ich bin der Meinung, dass manche Menschen eher mathematisch begabt sind und andere eher sprachbegabt. *[I think that some people are talented in math whereas others are talented in verbal domains.]*
3	Begabung ist fachspezifisch: Man ist entweder gut in Mathe und den Naturwissenschaften oder in den Sprachen. *[Ability is subject-specific. People are either achieving well in math or in languages.]*
4	Wer nicht gut rechnen kann, hat dafür meist Stärken im sprachlichen Ausdruck. *[Students who are not as good in math have their strengths in verbal affairs.]*
5	Personen, die sprachlich und mathematisch begabt sind, sind recht selten. *[There are only a few people who are equally talented in math and German.]*
6	Zensuren einer Person in Deutsch und Mathematik sind meist recht unähnlich. *[A students' grades in math and German tend to be quite different.]*

Note. Students responded to each item on a Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. All items were reverse-coded.

Table S5

Items Used to Measure Students' Temporal Comparison-Related Belief

Item	Students' temporal comparison-related belief in math	Students' temporal comparison-related belief in German
1	Jede Person hat eine bestimmte Fähigkeit für das Fach Mathe und man kann wenig tun, um diese Fähigkeit zu verändern. *[Everyone has a certain amount of mathematical ability, and one can't do much to change this amount.]*	Jede Person hat eine bestimmte Fähigkeit für das Fach Deutsch und man kann wenig tun, um diese Fähigkeit zu verändern. *[Everyone has a certain amount of verbal ability, and one can't do much to change this amount.]*
2	Die eigene Fähigkeit für das Fach Mathe ist etwas Persönliches, das sich kaum verändern lässt. *[One's mathematical ability is something about oneself that one can't change much]*	Die eigene Fähigkeit für das Fach Deutsch ist etwas Persönliches, das sich kaum verändern lässt. *[One's verbal ability is something about oneself that one can't change much.]*
3	Menschen können neue Dinge im Fach Mathe lernen, aber sie können ihre grundlegende Fähigkeit für das Fach Mathe nicht verändern. *[People can learn new things in math, but they can't change their basic mathematical ability.]*	Menschen können neue Dinge im Fach Deutsch lernen, aber sie können ihre grundlegende Fähigkeit für das Fach Deutsch nicht verändern. *[People can learn new things in German, but they can't change their basic verbal ability.]*

Note. Students responded to each item on a Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. All items were reverse-coded.

Table S6

Items Used for the Knowledge Test in the Different Comparison Modules

Item	Social comparison module		Dimensional comparison module		Temporal comparison module	
	Math	**German**	**Math**	**German**	**Math**	**German**
1	In der Regel steigt das Mathe-Selbstkonzept, wenn wir unsere Mathe-Leistung mit anderen vergleichen, die in Mathe eine (1) bessere, (2) schlechtere (r), (3) ähnliche Leistung zeigen als/wie wir. *[In general, math self-concept increases when we compare our math performance with others who perform (1) better, (2) worse (c), (3) similarly than/like us.]*	In der Regel steigt das Deutsch-Selbstkonzept, wenn wir unsere Deutsch-Leistung mit anderen vergleichen, die in Deutsch eine (1) bessere, (2) schlechtere (r), (3) ähnliche Leistung zeigen als/wie wir. *[In general, German self-concept increases when we compare our German performance with others who perform (1) better, (2) worse (c), (3) similarly than/like us.]*	In der Regel steigt das Mathe-Selbstkonzept, wenn wir unsere Mathe-Leistung mit (1) besseren, (2) schlechteren (r), (3) ähnlichen Leistungen in anderen Fächern vergleichen. *[In general, math self-concept increases when we compare our math performance with (1) better, (2) worse (c), (3) similar performance in other subjects.]*	In der Regel steigt das Deutsch-Selbstkonzept, wenn wir unsere Deutsch-Leistung mit (1) besseren, (2) schlechteren (r), (3) ähnlichen Leistungen in anderen Fächern vergleichen. *[In general, German self-concept increases when we compare our German performance with (1) better, (2) worse (c), (3) similar performance in other subjects.]*	In der Regel steigt das Mathe-Selbstkonzept, wenn sich unsere Mathe-Leistung im Vergleich zu früher (1) verbessert (r), (2) verschlechtert, (3) nicht verändert hat. *[In general, math self-concept increases when our math performance (1) has improved (c), (2) has worsened, (3) has not changed compared to before.]*	In der Regel steigt das Deutsch-Selbstkonzept, wenn sich unsere Deutsch-Leistung im Vergleich zu früher (1) verbessert (r), (2) verschlechtert, (3) nicht verändert hat. *[In general, German self-concept increases when our German performance (1) has improved (c), (2) has worsened, (3) has not changed compared to before.]*
2	Schülerinnen und Schüler vergleichen ihre Mathe-Leistung überwiegend mit Schülerinnen und Schülern, die eine (1) bessere (r), (2) schlechtere, (3) ähnliche Leistung zeigen als/wie sie selbst. *[Students compare their math performance predominantly with students who perform (1) better (c), (2) worse, (3) similarly than/like themselves.]*	Schülerinnen und Schüler vergleichen ihre Deutsch-Leistung überwiegend mit Schülerinnen und Schülern, die eine (1) bessere (r), (2) schlechtere, (3) ähnliche Leistung zeigen als/wie sie selbst. *[Students compare their German performance predominantly with students who perform (1) better (c), (2) worse, (3) similarly than/like themselves.]*	Wenn Schülerinnen und Schüler ihre Leistungen in zwei Fächern miteinander vergleichen, unterscheiden sich die Selbstkonzepte in der Regel (1) stärker (r), (2) nicht so stark, (3) ähnlich stark als/wie ihre Leistungen. *[When students compare their performance in two subjects, the self-concepts usually differ (1) more strongly (c), (2) not as much, (3) similarly strong than/as their performance.]*	Wenn Schülerinnen und Schüler ihre Leistungen in zwei Fächern miteinander vergleichen, unterscheiden sich die Selbstkonzepte in der Regel (1) stärker (r), (2) nicht so stark, (3) ähnlich stark als/wie ihre Leistungen. *[When students compare their performance in two subjects, the self-concepts usually differ (1) more strongly (c), (2) not as much, (3) similarly strong than/as their performance.]*	Im Verlauf der gesamten Schulzeit werden die durchschnittlichen Noten in Mathe in der Regel (1) besser, (2) schlechter (r), (3) weder besser noch schlechter. *[Over the course of the entire school career, the average grades in math usually get (1) better, (2) worse (c), (3) neither better nor worse.]*	Im Verlauf der gesamten Schulzeit werden die durchschnittlichen Noten in Deutsch in der Regel (1) besser, (2) schlechter (r), (3) weder besser noch schlechter. *[Over the course of the entire school career, the average grades in German usually get (1) better, (2) worse (c), (3) neither better nor worse.]*
3	Schülerinnen und Schüler vergleichen ihre Mathe-Leistung überwiegend mit Schülerinnen und Schülern aus (1) ihrer Klasse (r), (2) anderen Klassen, (3) anderen Schulen. *[Students compare their math performance predominantly to students in (1) their own class (c), (2) other classes, (3) other school types.]*	Schülerinnen und Schüler vergleichen ihre Deutsch-Leistung überwiegend mit Schülerinnen und Schülern aus (1) ihrer Klasse (r), (2) anderen Klassen, (3) anderen Schulen. *[Students compare their German performance predominantly to students in (1) their own class (c), (2) other classes, (3) other school types.]*	Fächervergleiche können (1) nur bewusst, (2) nur unbewusst, (3) bewusst und unbewusst stattfinden (r). *[Subject comparisons can (1) only take place consciously, (2) only take place unconsciously, (3) take place consciously and unconsciously (c).]*	Fächervergleiche können (1) nur bewusst, (2) nur unbewusst, (3) bewusst und unbewusst stattfinden (r). *[Subject comparisons can (1) only take place consciously, (2) only take place unconsciously, (3) take place consciously and unconsciously (c).]*	Ein geringes Mathe-Selbstkonzept führt tendenziell dazu, dass sich die zukünftige Mathe-Leistung (1) verbessert, (2) verschlechtert (r), (3) nicht verändert. *[A low math self-concept tends to (1) improve, (2) worsen (c), (3) not change future math performance.]*	Ein geringes Deutsch-Selbstkonzept führt tendenziell dazu, dass sich die zukünftige Deutsch-Leistung (1) verbessert, (2) verschlechtert (r), (3) nicht verändert. *[A low German self-concept tends to (1) improve, (2) worsen (c), (3) not change future German performance.]*

Note. r = richtig; c = correct. Each item was a sentence that was to be completed, with three possible answers. Students were only presented with the knowledge quiz whose module they actually attended.

Confirmatory Factor Analyses

Conducting a confirmatory factor analysis (CFA) is crucial in validating the underlying structure of psychological constructs, particularly when assessing whether different scales measure distinct beliefs (Johnston, 2023). In this context, we compared a one-factor model, a three-factor model and a five-factor model to determine whether the five beliefs (social comparison-related belief in math/German, dimensional comparison-related belief, temporal comparison-related belief in math/German) are indeed separate constructs.

The one-factor model assumed that all items measured a single, undifferentiated belief, which might oversimplify the conceptual distinctions between the beliefs. The three-factor model assumed that there were three distinct beliefs (social, dimensional, and temporal comparison-related belief) without consideration of the subject-specification (math and German). In contrast, the five-factor model allowed for the possibility that each set of items uniquely reflected a distinct belief considering the subjects (social comparison-related belief in math/German, dimensional comparison-related belief, temporal comparison-related belief in math/German). If the five-factor model showed better fit indices compared to the one-factor model or the three-factor model, it would provide strong evidence that the five beliefs were not only theoretically different but also empirically distinguishable. We compared the different factor models for both time points (T1 and T2). Tables S7–S10 show the fit indices and factor loadings for all models. Both the fit indices and the factor loadings show that the five-factor model fit the best. We can therefore assume that the beliefs are also empirically distinguishable. This validation is vital for ensuring that the scales accurately capture the nuances of the distinct beliefs, thereby supporting their use in further research and practical applications.

Table S7

Fit Indices From Confirmatory Factor Analyses With a One-Factor Model, a Three-Factor Model, and a Five-Factor Model in T1

Fit indices	One-factor model	Three-factor model	Five-factor model
RMSEA	.171	.081	.053
CFI	.545	.903	.960
TLI	.473	.881	.948

Note. One-factor model assuming all items measured a single, undifferentiated belief. Three-factor model assuming three distinct beliefs (social, dimensional, and temporal comparison-related belief). Five-factor model assuming five distinct beliefs considering the subjects (social comparison-related belief in math/German, dimensional comparison-related belief, temporal comparison-related belief in math/German). All items in the models were measured at the first measurement time (T1). All models included all participants (N = 857).

Table S8

Fit Indices From Confirmatory Factor Analyses With a One-Factor Model, a Three-Factor Model, and a Five-Factor Model in T2

Fit indices	One-factor model	Three-factor model	Five-factor model
RMSEA	.210	.071	.042
CFI	.605	.956	.985
TLI	.538	.946	.981

Note. One-factor model assuming all items measured a single, undifferentiated belief. Three-factor model assuming three distinct beliefs (social, dimensional, and temporal comparison-related belief). Five-factor model assuming five distinct beliefs considering the subjects (social comparison-related belief in math/German, dimensional comparison-related belief, temporal comparison-related belief in math/German). All items in the models were measured at the second measurement time (T2). All models included all participants (N = 857).

Table S9

Factor Loadings From Confirmatory Factor Analyses With a One-Factor Model, a Three-Factor Model, and a Five-Factor Model in T1

Item	One-factor model	Three-factor model			Five-factor model				
	Factor 1	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
SocBeMa1	.333	.801	–	–	.817	–	–	–	–
SocBeMa2	.377	.752	–	–	.758	–	–	–	–
SocBeGe1	.329	.779	–	–	–	.792	–	–	–
SocBeGe2	.338	.742	–	–	–	.744	–	–	–
DimBe1	.553	–	.751	–	–	–	.744	–	–
DimBe3	.495	–	.613	–	–	–	.617	–	–
DimBe4	.487	–	.682	–	–	–	.685	–	–
DimBe6	.458	–	.547	–	–	–	.541	–	–
TemBeMa1	.649	–	–	.669	–	–	–	.753	–
TemBeMa2	.681	–	–	.707	–	–	–	.801	–
TemBeMa3	.598	–	–	.633	–	–	–	.665	–
TemBeGe1	.645	–	–	.675	–	–	–	–	.765
TemBeGe2	.623	–	–	.674	–	–	–	–	.784
TemBeGe3	.559	–	–	.606	–	–	–	–	.662

Note. SocBeMa = Social Comparison-Related Belief in math. SocBeGe = Social Comparison-Related Belief in German; DimBe = Dimensional Comparison-Related Belief; TemBeMa = Temporal Comparison-Related Belief in math; TemBeGe = Temporal Comparison-Related Belief in German. All models included all participants (N = 857).

Table S10

Factor Loadings From Confirmatory Factor Analyses With a One-Factor Model, a Three-Factor Model, and a Five-Factor Model in T2

Item	One-factor model	Three-factor model			Five-factor model				
	Factor 1	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
SocBeMa1	.368	.844	–	–	.873	–	–	–	–
SocBeMa2	.358	.852	–	–	.877	–	–	–	–
SocBeGe1	.347	.830	–	–	–	.859	–	–	–
SocBeGe2	.355	.837	–	–	–	.871	–	–	–
DimBe1	.607	–	.822	–	–	–	.827	–	–
DimBe3	.618	–	.783	–	–	–	.781	–	–
DimBe4	.557	–	.783	–	–	–	.784	–	–
DimBe6	.470	–	.597	–	–	–	.599	–	–
TemBeMa1	.788	–	–	.810	–	–	–	.844	–
TemBeMa2	.809	–	–	.828	–	–	–	.867	–
TemBeMa3	.744	–	–	.754	–	–	–	.782	–
TemBeGe1	.782	–	–	.795	–	–	–	–	.833
TemBeGe2	.805	–	–	.822	–	–	–	–	.870
TemBeGe3	.762	–	–	.783	–	–	–	–	.802

Note. SocBeMa = Social Comparison-Related Belief in math; SocBeGe = Social Comparison-Related Belief in German; DimBe = Dimensional Comparison-Related Belief; TemBeMa = Temporal Comparison-Related Belief in math; TemBeGe = Temporal Comparison-Related Belief in German. All models included all participants (N = 857).

Tests for Measurement Invariance

A less restrictive model is usually compared to a more restrictive model when testing for measurement invariance (Little et al., 2007). We tested five measurement models for invariance across time (T1 and T2): self-concept in math, self-concept in German, dimensional comparison-related belief, temporal comparison-related belief in math, and temporal comparison-related belief in German.

Each time, we started to test a baseline model assuming configural measurement invariance (i.e., the indicators were allocated to specific factors, but their loadings were estimated freely across time). Subsequently, we tested a model assuming metric measurement invariance (i.e., the factor loadings were constrained to be equal over time). Finally, we tested a model assuming scalar measurement invariance (i.e., the factor loadings and the intercepts of the indicators were constrained to be equal over time). Invariance at a higher level is suggested when changes in model fit indices are minimal (Little et al., 2007). As we had a very large sample, the changes in RMSEA ($\leq .015$) and CFI ($\geq -.01$) were considered as indicators rather than the nonsignificance of chi-square difference tests (Cheung & Rensvold, 2002). The model comparisons are summarized in Table S11.

Overall, the results indicated that configural and metric invariance were supported across nearly all constructs (ΔRMSEA $\leq .015$, ΔCFI $\leq -.007$), with one exception for the metric invariance in the German self-concept (ΔRMSEA = .010, ΔCFI = –.011). However, while scalar invariance was supported for the math self-concept (ΔRMSEA = .005, ΔCFI = –.005) and for the temporal comparison-related belief in math (ΔRMSEA = –.004, ΔCFI = –.002), there were also some challenges with scalar invariance: Scalar invariance for the dimensional comparison-related belief could only be achieved by eliminating two items (Item 2: "I believe that some people are more mathematically gifted, while others are more linguistically gifted", Item 5: "Individuals who are gifted in both language and mathematics are quite rare") and allowing a correlation between the residuals of two other items (Item 1: "Those who are good at math are usually not as good at language", Item 3: "Ability is subject-specific: one is either good at math and science or at languages"; ΔRMSEA = .014, ΔCFI = –.010).

Scalar invariance for the German self-concept could only be supported partly (ΔRMSEA = .014, ΔCFI = –.019). Moreover, scalar invariance for the temporal comparison-related belief in German could not be achieved (ΔRMSEA = .024, ΔCFI = –.015). Nevertheless, the overall fit of the model specifying the temporal-comparison-related belief in German under scalar invariance was still very good (RMSEA = .060, CFI = .979) which is why we specified scalar invariance for all five constructs in our main analyses.

Table S11

Fit Indices for Measurement Models With Increasing Degree of Invariance Across Time

Model	RMSEA	CFI	ΔRMSEA	ΔCFI
Self-concept in math (T1–T2)				
Configural invariance	.056	.987		
Metric invariance	.054	.986	–.002	–.001
Scalar invariance	.059	.981	.005	–.005
Self-concept in German (T1–T2)				
Configural invariance	.061	.982		
Metric invariance	.071	.971	.010	–.011
Scalar invariance	.085	.952	.014	–.019
Dimensional comparison-related belief (T1–T2)				
Configural invariance	.027	.996		
Metric invariance	.031	.993	.004	–.003
Scalar invariance	.045	.983	.014	–.010
Temporal comparison-related belief in math (T1–T2)				
Configural invariance	.035	.996		
Metric invariance	.046	.989	.011	–.007
Scalar invariance	.042	.987	–.004	–.002
Temporal comparison-related belief in German (T1–T2)				
Configural invariance	.021	.999		
Metric invariance	.036	.994	.015	–.005
Scalar invariance	.060	.979	.024	–.015

Note. T1 = first measurement time; T2 = second measurement time. Tests for invariance at T1 and T2 included all participants (N = 857).

Syntaxes

In the following, the syntaxes for the models examining the effects on students' comparison-related beliefs and self-concepts are presented. The syntaxes for the models examining the relative changes are equivalent. A description of the variables follows the syntaxes. Data can be downloaded at OSF [https://osf.io/xbv4q/?view_only=62ce423079de44dba59a9e7b132417e6].

Syntax I: Model 1a (Self-Concept Math) as Example for the Analyses of the Relative Changes in (a) Self-Concepts and (b) Comparison-Related Beliefs in the Different Intervention Modules

```
data:
file = finaldataset.dat;
variable:
names =
socomma socomge dicomma dicomge tecomma tecomge mindma mindge
scma1_1 scma1_2 scma1_3 scma1_4 scma1_5
scge1_1 scge1_2 scge1_3 scge1_4 scge1_5
sbm1_1 sbm1_2
sbg1_1 sbg1_2
db1_1 db1_2 db1_3 db1_4 db1_5 db1_6
tbm1_1 tbm1_2 tbm1_3
tbg1_1 tbg1_2 tbg1_3
scma2_1 scma2_2 scma2_3 scma2_4 scma2_5
scge2_1 scge2_2 scge2_3 scge2_4 scge2_5
sbm2_1 sbm2_2
sbg2_1 sbg2_2
db2_1 db2_2 db2_3 db2_4 db2_5 db2_6
tbm2_1 tbm2_2 tbm2_3
tbg2_1 tbg2_2 tbg2_3
class;
usevariables =
```

```
scma1_1 scma1_2 scma1_3 scma1_4 scma1_5
scma2_1 scma2_2 scma2_3 scma2_4 scma2_5
socomma socomge dicomma dicomge tecomma tecomge mindge;
analysis:
estimator = MLR;
model:
selfma1 by scma1_1* (h1);
selfma1 by scma1_2* (h2);
selfma1 by scma1_3* (h3);
selfma1 by scma1_4* (h4);
selfma1 by scma1_5* (h5);
selfma2 by scma2_1* (h1);
selfma2 by scma2_2* (h2);
selfma2 by scma2_3* (h3);
selfma2 by scma2_4* (h4);
selfma2 by scma2_5* (h5);
[scma1_1*] (i1);
[scma2_1*] (i1);
[scma1_2*] (i2);
[scma2_2*] (i2);
[scma1_3*] (i3);
[scma2_3*] (i3);
[scma1_4*] (i4);
[scma2_4*] (i4);
[scma1_5*] (i5);
[scma2_5*] (i5);
scma1_1 with scma2_1;
scma1_2 with scma2_2;
scma1_3 with scma2_3;
scma1_4 with scma2_4;
scma1_5 with scma2_5;
```

selfmaC by scma1_1@0;

[selfma1 selfmaC];

selfma2 on selfma1@1 selfmaC@1;

selfma2@0;

[selfma2@0];

selfma1 with selfmaC;

selfma1 selfmaC on socomma socomge dicomma dicomge tecomma tecomge mindge;

MODEL CONSTRAINT:

0 = h1 + h2 + h3 + h4 + h5 - 5;

0 = i1 + i2 + i3 + i4 + i5;

Output: sampstat stdyx;

Syntax II: Model 3 – Analysis of Correlated T1 Levels and Change Scores

data:

file = finaldataset.dat;

variable:

names =

socomma socomge dicomma dicomge tecomma tecomge mindma mindge

scma1_1 scma1_2 scma1_3 scma1_4 scma1_5

scge1_1 scge1_2 scge1_3 scge1_4 scge1_5

sbm1_1 sbm1_2

sbg1_1 sbg1_2

db1_1 db1_2 db1_3 db1_4 db1_5 db1_6

tbm1_1 tbm1_2 tbm1_3

tbg1_1 tbg1_2 tbg1_3

scma2_1 scma2_2 scma2_3 scma2_4 scma2_5

scge2_1 scge2_2 scge2_3 scge2_4 scge2_5

sbm2_1 sbm2_2

sbg2_1 sbg2_2

db2_1 db2_2 db2_3 db2_4 db2_5 db2_6

tbm2_1 tbm2_2 tbm2_3

tbg2_1 tbg2_2 tbg2_3

```
class;
usevariables =
scma1_1 scma1_2 scma1_3 scma1_4 scma1_5
scma2_1 scma2_2 scma2_3 scma2_4 scma2_5
sbm1_1 sbm1_2
db1_1 db1_3 db1_4 db1_6
db2_1 db2_3 db2_4 db2_6
tbm1_1 tbm1_2 tbm1_3
tbm2_1 tbm2_2 tbm2_3
scge1_1 scge1_2 scge1_3 scge1_4 scge1_5
scge2_1 scge2_2 scge2_3 scge2_4 scge2_5
sbg1_1 sbg1_2
sbg2_1 sbg2_2
tbg1_1 tbg1_2 tbg1_3
tbg2_1 tbg2_2 tbg2_3;
analysis:
estimator = MLR;
model:
selfma1 by scma1_1* (a1);
selfma1 by scma1_2* (a2);
selfma1 by scma1_3* (a3);
selfma1 by scma1_4* (a4);
selfma1 by scma1_5* (a5);
selfma2 by scma2_1* (a1);
selfma2 by scma2_2* (a2);
selfma2 by scma2_3* (a3);
selfma2 by scma2_4* (a4);
selfma2 by scma2_5* (a5);

[scma1_1*] (b1);
[scma2_1*] (b1);
```

```
[scma1_2*] (b2);
[scma2_2*] (b2);
[scma1_3*] (b3);
[scma2_3*] (b3);
[scma1_4*] (b4);
[scma2_4*] (b4);
[scma1_5*] (b5);
[scma2_5*] (b5);
scma1_1 with scma2_1;
scma1_2 with scma2_2;
scma1_3 with scma2_3;
scma1_4 with scma2_4;
scma1_5 with scma2_5;
selfmaC by scma1_1@0;
[selfma1 selfmaC];
selfma2 on selfma1@1 selfmaC@1;
selfma2@0;
[selfma2@0];
selfma1 with selfmaC;

sobelma1 by sbm1_1@1;
sobelma1 by sbm1_2@1;
sobelma2 by sbm2_1@1;
sobelma2 by sbm2_2@1;
[sbm1_1*](n1);
[sbm1_2*](n2);
[sbm2_1*](n1);
[sbm2_2*](n2);

sbm1_1 with sbm2_1;
sbm1_2 with sbm2_2;
```

```
sobelmaC by sbm1_1@0;
[sobelma1 sobelmaC];
sobelma2 on sobelma1@1 sobelmaC@1;
sobelma2@0;
[sobelma2@0];
sobelma1 with sobelmaC;

dibel1 by db1_1* (c1);
dibel1 by db1_3* (c2);
dibel1 by db1_4* (c3);
dibel1 by db1_6* (c4);
dibel2 by db2_1* (c1);
dibel2 by db2_3* (c2);
dibel2 by db2_4* (c3);
dibel2 by db2_6* (c4);
 [db1_1*] (d1);
[db2_1*] (d1);
[db1_3*] (d2);
[db2_3*] (d2);
[db1_4*] (d3);
[db2_4*] (d3);
[db1_6*] (d4);
[db2_6*] (d4);
db1_1 with db2_1;
db1_3 with db2_3;
db1_4 with db2_4;
db1_6 with db2_6;
db1_1 with db1_3;
db2_1 with db2_3;
dibelC by db1_1@0;
[dibel1 dibelC];
```

```
dibel2 on dibel1@1 dibelC@1;
dibel2@0;
[dibel2@0];
dibel1 with dibelC;

tebelma1 by tbm1_1* (e1);
tebelma1 by tbm1_2* (e2);
tebelma1 by tbm1_3* (e3);
tebelma2 by tbm2_1* (e1);
tebelma2 by tbm2_2* (e2);
tebelma2 by tbm2_3* (e3);
[tbm1_1*] (f1);
[tbm2_1*] (f1);
[tbm1_2*] (f2);
[tbm2_2*] (f2);
[tbm1_3*] (f3);
[tbm2_3*] (f3);
tbm1_1 with tbm2_1;
tbm1_2 with tbm2_2;
tbm1_3 with tbm2_3;
tebelmaC by tbm1_1@0;
[tebelma1 tebelmaC];
tebelma2 on tebelma1@1 tebelmaC@1;
tebelma2@0;
[tebelma2@0];
tebelma1 with tebelmaC;

selfge1 by scge1_1* (g1);
selfge1 by scge1_2* (g2);
selfge1 by scge1_3* (g3);
selfge1 by scge1_4* (g4);
```

```
selfge1 by scge1_5* (g5);
selfge2 by scge2_1* (g1);
selfge2 by scge2_2* (g2);
selfge2 by scge2_3* (g3);
selfge2 by scge2_4* (g4);
selfge2 by scge2_5* (g5);
[scge1_1*] (h1);
[scge2_1*] (h1);
[scge1_2*] (h2);
[scge2_2*] (h2);
[scge1_3*] (h3);
[scge2_3*] (h3);
[scge1_4*] (h4);
[scge2_4*] (h4);
[scge1_5*] (h5);
[scge2_5*] (h5);
scge1_1 with scge2_1;
scge1_2 with scge2_2;
scge1_3 with scge2_3;
scge1_4 with scge2_4;
scge1_5 with scge2_5;
selfgeC by scge1_1@0;
[selfge1 selfgeC];
selfge2 on selfge1@1 selfgeC@1;
selfge2@0;
[selfge2@0];
selfge1 with selfgeC;

sobelge1 by sbg1_1@1;
sobelge1 by sbg1_2@1;
sobelge2 by sbg2_1@1;
```

```
sobelge2 by sbg2_2@1;
[sbg1_1*](l1);
[sbg1_2*](l2);
[sbg2_1*](l1);
[sbg2_2*](l2);
sbg1_1 with sbg2_1;
sbg1_2 with sbg2_2;
sobelgeC by sbg1_1@0;
[sobelge1 sobelgeC];
sobelge2 on sobelge1@1 sobelgeC@1;
sobelge2@0;
[sobelge2@0];
sobelge1 with sobelgeC;

tebelge1 by tbg1_1* (i1);
tebelge1 by tbg1_2* (i2);
tebelge1 by tbg1_3* (i3);
tebelge2 by tbg2_1* (i1);
tebelge2 by tbg2_2* (i2);
tebelge2 by tbg2_3* (i3);
[tbg1_1*] (j1);
[tbg2_1*] (j1);
[tbg1_2*] (j2);
[tbg2_2*] (j2);
[tbg1_3*] (j3);
[tbg2_3*] (j3);
tbg1_1 with tbg2_1;
tbg1_2 with tbg2_2;
tbg1_3 with tbg2_3;
tebelgeC by tbg1_1@0;
[tebelge1 tebelgeC];
```

```
tebelge2 on tebelge1@1 tebelgeC@1;
tebelge2@0;
[tebelge2@0];
tebelge1 with tebelgeC;

selfma2 with selfge1@0 selfge2@0 selfgeC@0;
selfma2 with sobelma1@0 sobelma2@0 sobelmaC@0;
selfma2 with sobelge1@0 sobelge2@0 sobelgeC@0;
selfma2 with dibel1@0 dibel2@0 dibelC@0;
selfma2 with tebelma1@0 tebelma2@0 tebelmaC@0;
selfma2 with tebelge1@0 tebelge2@0 tebelgeC@0;

selfge2 with selfma1@0 selfma2@0 selfmaC@0;
selfge2 with sobelma1@0 sobelma2@0 sobelmaC@0;
selfge2 with sobelge1@0 sobelge2@0 sobelgeC@0;
selfge2 with dibel1@0 dibel2@0 dibelC@0;
selfge2 with tebelma1@0 tebelma2@0 tebelmaC@0;
selfge2 with tebelge1@0 tebelge2@0 tebelgeC@0;

sobelma2 with selfma1@0 selfma2@0 selfmaC@0;
sobelma2 with selfge1@0 selfge2@0 selfgeC@0;
sobelma2 with sobelge1@0 sobelge2@0 sobelgeC@0;
sobelma2 with dibel1@0 dibel2@0 dibelC@0;
sobelma2 with tebelma1@0 tebelma2@0 tebelmaC@0;
sobelma2 with tebelge1@0 tebelge2@0 tebelgeC@0;

sobelge2 with selfma1@0 selfma2@0 selfmaC@0;
sobelge2 with selfge1@0 selfge2@0 selfgeC@0;
sobelge2 with sobelma1@0 sobelma2@0 sobelmaC@0;
sobelge2 with dibel1@0 dibel2@0 dibelC@0;
sobelge2 with tebelma1@0 tebelma2@0 tebelmaC@0;
```

sobelge2 with tebelge1@0 tebelge2@0 tebelgeC@0;

dibel2 with selfma1@0 selfma2@0 selfmaC@0;
dibel2 with selfge1@0 selfge2@0 selfgeC@0;
dibel2 with sobelma1@0 sobelma2@0 sobelmaC@0;
dibel2 with sobelge1@0 sobelge2@0 sobelgeC@0;
dibel2 with tebelma1@0 tebelma2@0 tebelmaC@0;
dibel2 with tebelge1@0 tebelge2@0 tebelgeC@0;

tebelma2 with selfma1@0 selfma2@0 selfmaC@0;
tebelma2 with selfge1@0 selfge2@0 selfgeC@0;
tebelma2 with sobelma1@0 sobelma2@0 sobelmaC@0;
tebelma2 with sobelge1@0 sobelge2@0 sobelgeC@0;
tebelma2 with dibel1@0 dibel2@0 dibelC@0;
tebelma2 with tebelge1@0 tebelge2@0 tebelgeC@0;

tebelge2 with selfma1@0 selfma2@0 selfmaC@0;
tebelge2 with selfge1@0 selfge2@0 selfgeC@0;
tebelge2 with sobelma1@0 sobelma2@0 sobelmaC@0;
tebelge2 with sobelge1@0 sobelge2@0 sobelgeC@0;
tebelge2 with dibel1@0 dibel2@0 dibelC@0;
tebelge2 with tebelma1@0 tebelma2@0 tebelmaC@0;

MODEL CONSTRAINT:

0 = a1 + a2 + a3 + a4 + a5 - 5;
0 = b1 + b2 + b3 + b4 + b5;
0 = c1 + c2 + c3 + c4 - 4;
0 = d1 + d2 + d3 + d4;
0 = e1 + e2 + e3 -3;
0 = f1 + f2 + f3;
0 = g1 + g2 + g3 + g4 + g5 - 5;

0 = h1 + h2 + h3 + h4 + h5;

0 = i1 + i2 + i3 -3;

0 = j1 + j2 + j3;

0 = l1 + l2;

0 = n1 + n2;

Output: sampstat stdyx;

Table S12

Description of the Variables

Variable	Description
socomma	Dummy variable indicating students' participation of the social comparison module in math
socomge	Dummy variable indicating students' participation of the social comparison module in German
dicomma	Dummy variable indicating students' participation of the dimensional comparison module in math
dicomge	Dummy variable indicating students' participation of the dimensional comparison module in German
tecomma	Dummy variable indicating students' participation of the temporal comparison module in math
tecomge	Dummy variable indicating students' participation of the temporal comparison module in German
mindma	Dummy variable indicating students' participation of the mindfulness intervention (control intervention), assigned to the math group
mindge	Dummy variable indicating students' participation of the mindfulness intervention (control intervention), assigned to the German group
scma1_1	First item measuring students' self-concept in math at T1 (reverse coded)
scma1_2	Second item measuring students' self-concept in math at T1 (reverse coded)
scma1_3	Third item measuring students' self-concept in math at T1 (reverse coded)
scma1_4	Fourth item measuring students' self-concept in math at T1 (reverse coded)
scma1_5	Fifth item measuring students' self-concept in math at T1 (reverse coded)
scma2_1	First item measuring students' self-concept in math at T2 (reverse coded)
scma2_2	Second item measuring students' self-concept in math at T2 (reverse coded)
scma2_3	Third item measuring students' self-concept in math at T2 (reverse coded)
scma2_4	Fourth item measuring students' self-concept in math at T2 (reverse coded)
scma2_5	Fifth item measuring students' self-concept in math at T2 (reverse coded)
scge1_1	First item measuring students' self-concept in German at T1 (reverse coded)
scge1_2	Second item measuring students' self-concept in German at T1 (reverse coded)
scge1_3	Third item measuring students' self-concept in German at T1 (reverse coded)
scge1_4	Fourth item measuring students' self-concept in German at T1 (reverse coded)
scge1_5	Fifth item measuring students' self-concept in German at T1 (reverse coded)
scge2_1	First item measuring students' self-concept in German at T2 (reverse coded)
scge2_2	Second item measuring students' self-concept in German at T2 (reverse coded)

scge2_3	Third item measuring students' self-concept in German at T2 (reverse coded)
scge2_4	Fourth item measuring students' self-concept in German at T2 (reverse coded)
scge2_5	Fifth item measuring students' self-concept in German at T2 (reverse coded)
sbm1_1	First item measuring students' social comparison-related belief in math at T1 (reverse coded)
sbm1_2	Second item measuring students' social comparison-related belief in math at T1 (reverse coded)
sbm2_1	First item measuring students' social comparison-related belief in math at T2 (reverse coded)
sbm2_2	Second item measuring students' social comparison-related belief in math at T2 (reverse coded)
sbg1_1	First item measuring students' social comparison-related belief in German at T1 (reverse coded)
sbg1_2	Second item measuring students' social comparison-related belief in German at T1 (reverse coded)
sbg2_1	First item measuring students' social comparison-related belief in German at T2 (reverse coded)
sbg2_2	Second item measuring students' social comparison-related belief in German at T2 (reverse coded)
db1_1	First item measuring students' dimensional comparison-related belief at T1 (reverse coded)
db1_2	Second item measuring students' dimensional comparison-related belief at T1 (reverse coded)
db1_3	Third item measuring students' dimensional comparison-related belief at T1 (reverse coded)
db1_4	Fourth item measuring students' dimensional comparison-related belief at T1 (reverse coded)
db1_5	Fifth item measuring students' dimensional comparison-related belief at T1 (reverse coded)
db1_6	Sixth item measuring students' dimensional comparison-related belief at T1 (reverse coded)
db2_1	First item measuring students' dimensional comparison-related belief at T2 (reverse coded)
db2_2	Second item measuring students' dimensional comparison-related belief at T2 (reverse coded)
db2_3	Third item measuring students' dimensional comparison-related belief at T2 (reverse coded)
db2_4	Fourth item measuring students' dimensional comparison-related belief at T2 (reverse coded)
db2_5	Fifth item measuring students' dimensional comparison-related belief at T2 (reverse coded)
db2_6	Sixth item measuring students' dimensional comparison-related belief at T2 (reverse coded)
tbm1_1	First item measuring students' temporal comparison-related belief in math at T1 (reverse coded)
tbm1_2	Second item measuring students' temporal comparison-related belief in math at T1 (reverse coded)
tbm1_3	Third item measuring students' temporal comparison-related belief in math at T1 (reverse coded)
tbm2_1	First item measuring students' temporal comparison-related belief in math at T2 (reverse coded)

tbm2_2	Second item measuring students' temporal comparison-related belief in math at T2 (reverse coded)
tbm2_3	Third item measuring students' temporal comparison-related belief in math at T2 (reverse coded)
tbg1_1	First item measuring students' temporal comparison-related belief in German at T1 (reverse coded)
tbg1_2	Second item measuring students' temporal comparison-related belief in German at T1 (reverse coded)
tbg1_3	Third item measuring students' temporal comparison-related belief in German at T1 (reverse coded)
tbg2_1	First item measuring students' temporal comparison-related belief in German at T2 (reverse coded)
tbg2_2	Second item measuring students' temporal comparison-related belief in German at T2 (reverse coded)
tbg2_3	Third item measuring students' temporal comparison-related belief in German at T2 (reverse coded)
class	Students' class in schools
selfma1	Latent variable T1 level "self-concept in math"
selfma2	Latent variable T2 level "self-concept in math"
selfmaC	Latent variable change score "self-concept in math"
selfge1	Latent variable T1 level "self-concept in German"
selfge2	Latent variable T2 level "self-concept in German"
selfgeC	Latent variable change score "self-concept in German"
sobelma1	Latent variable T1 level "social comparison-related belief in math"
sobelma2	Latent variable T2 level "social comparison-related belief in math"
sobelmaC	Latent variable change score "social comparison-related belief in math"
sobelge1	Latent variable T1 level "social comparison-related belief in German"
sobelge2	Latent variable T2 level "social comparison-related belief in German"
sobelgeC	Latent variable change score "social comparison-related belief in German"
dibel1	Latent variable T1 level "dimensional comparison-related belief"
dibel2	Latent variable T2 level "dimensional comparison-related belief"
dibelC	Latent variable change score "dimensional comparison-related belief"
tebelma1	Latent variable T1 level "temporal comparison-related belief in math"
tebelma2	Latent variable T2 level "temporal comparison-related belief in math"
tebelmaC	Latent variable change score "temporal comparison-related belief in math"
tebelge1	Latent variable T1 level "temporal comparison-related belief in German"
tebelge2	Latent variable T2 level "temporal comparison-related belief in German"
tebelgeC	Latent variable change score "temporal comparison-related belief in German"

Additional Results and Model Fit Statistics

Table S13

Correlations Between the Initial Levels and Change Scores of Self-Concepts and Comparison-Related Beliefs Without Type Specification "Type = Complex"

Variable		Self-concept math						Self-concept German						Social comparison-related belief math						Social comparison-related belief German						Dimensional comparison-related belief						Temporal comparison-related belief math						Temporal comparison-related belief German					
		T1			Δ			T1			Δ			T1			Δ			T1			Δ			T1			Δ			T1			Δ			T1			Δ		
		r	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*	*r*	*SE*	*p*
Self-concept math	T1	–	–	–																																					
	Δ	**–.28**	**.05**	**.000**	–	–	–																																		
Self-concept German	T1	**–.19**	**.03**	**.000**	.08	.04	.086	–	–	–																															
	Δ	–.08	.04	.070	**.28**	**.06**	**.000**	**–.18**	**.05**	**.000**	–	–	–																												
Social comparison-related belief math	T1	–.01	.04	.808	**.10**	**.05**	**.029**	**.10**	**.04**	**.021**	.06	.05	.220	–	–	–																										
	Δ	.05	.05	.318	.04	.06	.475	.01	.05	.848	**.18**	**.07**	**.009**	**–.28**	**.05**	**.000**	–	–	–																						
Social comparison-related belief German	T1	–.03	.04	.549	.03	.05	.493	**.09**	**.04**	**.040**	.03	.06	.549	**.98**	**.03**	**.000**	**–.30**	**.05**	**.000**	–	–	–																			
	Δ	.08	.05	.134	**.14**	**.06**	**.016**	–.02	.05	.757	**.16**	**.08**	**.030**	**–.29**	**.06**	**.000**	**.96**	**.06**	**.000**	**–.22**	**.06**	**.000**	–	–	–															
Dimensional comparison-related belief	T1	**.21**	**.04**	**.000**	.07	.05	.121	**.23**	**.04**	**.000**	.01	.05	.753	**.27**	**.05**	**.000**	–.05	.06	.340	**.23**	**.05**	**.000**	–.03	.06	.623	–	–	–													
	Δ	–.02	.05	.681	**.13**	**.07**	**.048**	–.07	.05	.155	**.24**	**.07**	**.001**	–.10	.06	.061	**.41**	**.07**	**.000**	–.05	.06	.377	**.35**	**.08**	**.000**	**–.18**	**.05**	**.000**	–	–	–									
Temporal comparison-related belief math	T1	**.25**	**.04**	**.000**	.06	.05	.257	.02	.04	.625	**.13**	**.05**	**.010**	**.28**	**.05**	**.000**	–.01	.06	.807	**.28**	**.05**	**.000**	–.05	.06	.369	**.58**	**.04**	**.000**	–.09	.06	.125	–	–	–						
	Δ	.04	.05	.424	**.22**	**.06**	**.000**	**.11**	**.05**	**.023**	**.21**	**.06**	**.001**	–.08	.06	.174	**.33**	**.08**	**.000**	–.03	.06	.579	**.30**	**.08**	**.000**	–.07	.06	.257	**.61**	**.07**	**.000**	**–.19**	**.06**	**.001**	–	–	–			
Temporal comparison-related belief German	T1	.04	.04	.263	.07	.05	.125	**.27**	**.04**	**.000**	**.18**	**.05**	**.001**	**.27**	**.05**	**.000**	–.06	.05	.317	**.21**	**.05**	**.000**	–.06	.06	.326	**.52**	**.04**	**.000**	–.09	.06	.119	**.66**	**.04**	**.000**	–.07	.06	.206	–	–	–
	Δ	**.17**	**.04**	**.000**	**.16**	**.06**	**.009**	–.06	.05	.204	**.21**	**.07**	**.002**	–.07	.06	.178	**.34**	**.06**	**.000**	.00	.06	.981	**.34**	**.07**	**.000**	.01	.05	.835	**.55**	**.06**	**.000**	–.01	.06	.901	**.83**	**.06**	**.000**	**–.25**	**.05**	**.000**	–	–	–

Note. $N = 857$. T1 = initial level; Δ = change score. Significant correlations are written in bold. Results relevant to hypothesis testing are marked in grey. Model fits: RMSEA = .030, CFI = .970, TLI = .966.

Table S14

Number of Free Parameters and Fit Indices for Each Analyzed Model

Model	Number of free parameters	RMSEA	CFI	TLI
Relative changes in subject-specific self-concepts (Figures 1a–1d)				
Model 1a: Relative change in math self-concept (math control group)	**42**	**.043**	**.982**	**.978**
Model 1b: Relative change in German self-concept (German control group)	**42**	**.057**	**.961**	**.952**
Model 1c: Relative change in math self-concept (German control group)	42	.043	.982	.978
Model 1d: Relative change in German self-concept (math control group)	42	.057	.961	.952
Relative changes in subject-specific comparison-related beliefs (Figures 2a–2j)				
Model 2a: Relative change in social comparison-related belief in math (math control group)	**26**	**.021**	**.995**	**.990**
Model 2b: Relative change in social comparison-related belief in German (German control group)	**26**	**.000**	**1.000**	**1.000**
Model 2c: Relative change in dimensional comparison-related belief (math control group)	**37**	**.033**	**.979**	**.972**
Model 2d: Relative change in dimensional comparison-related belief (German control group)	**37**	**.033**	**.979**	**.972**
Model 2e: Relative change in temporal comparison-related belief in math (math control group)	**32**	**.024**	**.992**	**.987**
Model 2f: Relative change in temporal comparison-related belief in German (German control group)	**32**	**.018**	**.996**	**.993**
Model 2g: Relative change in social comparison-related belief in math (German control group)	26	.021	.995	.990
Model 2h: Relative change in social comparison-related belief in German (math control group)	26	.000	1.000	1.000
Model 2i: Relative change in temporal comparison-related belief in math (German control group)	32	.024	.992	.987
Model 2j: Relative change in temporal comparison-related belief in German (math control group)	32	.018	.996	.993
Correlated constructs (Figure 3)				
Model 3: Correlated change scores of all constructs	**223**	**.030**	**.971**	**.967**

Note. The figures mentioned in the manuscript can be found in the statistical analyses section of the manuscript. The respective reference category for the analysis of relative changes is indicated in parentheses. Hypothesis-relevant models are highlighted in bold.

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