

Social Networks and Ability Perspectives in Physical Education (SNAP-PE)

Codebook and Data Overview

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1. Methodology

1.1. Timeline for Data collection

- T1 around the autumn break (October & November 2023)
- T2 after the half-year grades (February 2024)
- T3 before summer break (July 2024)

1.2. Consent to Participate

- Written consent by parents for students to participate, because students are all younger than 16 years old
- Written consent by teachers to participate

1.3. Questionnaires

- At each wave a student and a teacher questionnaire
- Pencil and paper questionnaires

2. Overview of the Measures

Table 1 Temporal Overview of the conducted measures in the student questionnaire over the three timepoints in alphabetical order.

Measure	Questionnaire	Type	T1	T2	T3
Friendship	Student	peer nomination	x	x	x
Gender	Student	single item	x	(x)	
Gender	Teacher	single item	x		
Group Work	Student	peer nomination	x	x	x
Half-year Physical Education Grade	Student	single item		x	
Language Spoken at Home	Student	single item	x	(x)	
Leisure Time Activities	Student	peer nomination	x	x	x
Other Approach	Student	scale	x	x	x
Performance Nominations	Student	peer nomination	x	x	x
Primary School	Student	peer nomination	x	(x)	
Primary School Physical Education Grade	Student	single item	x	(x)	
Responsibility of Students' Peer Relationships	Teacher	scale	x		
Satisfaction with Peer Relationships	Student	scale	x	x	x
Self-Concept in Physical Education	Student	scale	x	x	x
Self-concept of Peer Relationships	Student	scale	x	x	x
Sport Ability Beliefs	Student	scale	x	x	x
Sports Activity Time	Student	single item	x	x	x
Sports Club	Student	peer nomination	x	x	x
Sports Club Membership	Student	single item	x	x	x
Sports Game	Student	peer nomination	x	x	x
Student Rating of Physical Ability	Teacher	single item (per student)	x	x	x
Teaching Experience	Teacher	single item	x		
Willingness to Make an Effort in Physical Education	Student	scale		x	x

Note. Crosses in parentheses indicate that the participants could fill out the same question in the second wave if they didn't participate in the first wave

3. Sample

3.1. Sampling and Location

- Schools were contacted via e-mail in the summer of 2023
- All schools are located in Baden-Württemberg in Germany

3.2. Participation over Time

	T1	T2	T3	Total (at least 1/3)	All (3/3)
Classes	25	23	23	25	23
Students	637	593	593	654	576
Participated	570	517	519	613	442
Participation %	89.5%	87.2%	87.5%	93.7%	76.7%

- 2 classes were dropped after T1
 - 1 because of low participation
 - 1 because a non-exhaustive student list was provided

Class and wave wise participation is displayed in Table 2. The participation rates for individual waves are pretty high with most classes having participation rates above 80%. In 11 out of the 23 classes that participated in all three waves, more than 80% of students participated in every wave, which is a general benchmark for modeling stochastic actor-oriented models without having to impute data (Huisman, 2009). In all but 2 classrooms there is a participation rate greater or equal to 60% in all three waves, where missing data could be imputed to improve results.

Table 2 Class and wave wise participation rates.

SC	KC	Class Size	T1			T2			T3			Total (at least 1/3)			All (3/3)		
			Participated	%	Class Size	Participated	%	Class Size	Participated	%	Class Size	Participated	%	Class Size	Participated	%	
1	1	28	27	96.43	29	29	100	29	28	96.55	29	29	100	28	26	92.86	
1	2	30	28	93.33	30	28	93.33	30	26	86.67	30	30	100	30	24	80.00	
1	3	30	26	86.67	30	21	70	27	22	81.48	30	27	90	27	18	66.67	
1	4	29	27	93.10	29	28	96.55	28	27	96.43	29	29	100	28	25	89.29	
2	1	28	26	92.86	27	27	100	27	23	85.19	28	27	96.43	27	22	81.48	
2	2	28	28	100	27	26	96.30	27	27	100	28	28	100	27	26	96.30	
2	3	28	28	100	28	27	96.43	27	26	96.30	28	28	100	27	26	96.30	
2	4	26	24	92.31	28	26	92.86	28	24	85.71	28	27	96.43	26	21	80.77	
3	1	18	14	77.78	18	14	77.78	18	15	83.33	21	16	76.19	15	13	86.67	
3	2	20	18	90	20	19	95	20	19	95	21	20	95.24	19	16	84.21	
5	1	22	21	95.45	22	22	100	22	17	77.27	22	22	100	22	17	77.27	
5	2	20	20	100	20	10	50	22	16	72.73	22	20	90.91	20	9	45.00	
5	3	22	21	95.45	22	22	100	23	22	95.65	23	23	100	22	20	90.91	
5	4	20	19	95.00	22	18	81.82	22	17	77.27	22	22	100	20	12	60.00	
5	5	24	20	83.33	25	23	92	25	24	96	26	26	100	23	16	69.57	
5	6	25	20	80.00	24	14	58.33	27	24	88.89	28	25	89.29	24	13	54.17	
6	1	27	25	92.59	27	21	77.78	27	23	85.19	27	27	100	27	18	66.67	
6	2	(19) ^a	18	(94.74) ^a													
6	3	27	27	100	27	25	92.59	27	26	96.30	27	27	100	27	24	88.89	
6	4	27	16	59.26													
7	1	29	25	86.21	28	24	85.71	28	26	92.86	29	28	96.55	28	20	71.43	
7	2	29	27	93.10	29	27	93.10	28	26	92.86	29	29	100.00	28	22	78.57	
7	3	26	21	80.77	26	20	76.92	26	20	76.92	26	22	84.62	26	17	65.38	
7	4	27	24	88.89	27	24	88.89	27	21	77.78	27	25	92.59	27	19	70.37	
7	5	28	20	71.43	28	22	78.57	28	20	71.43	28	22	78.57	28	18	64.29	

Note. a School 6, Class 2 did not provide the full student list. green ≥ 80%, yellow ≥ 70%, orange ≥ 60%, red < 60%

3.3. Gender

Item Names: Gender
Timepoints: T1, T2 (for those who didn't participate at T1)

Variable	Formulation [<i>Original</i>]
Gender	What gender are you? [<i>Welches Geschlecht hast du?</i>]

Coding: 1 = female, 2 = male, 3 = non-binary

Gender	N
Female	286
Male	293
Non-binary	0
Missing	27

3.4. Language Spoken at Home

Item Names: Sprache
Timepoints: T1, T2 (for those who didn't participate at T1)

Variable	Formulation [<i>Original</i>]
Sprache	What language do you speak at home? [<i>Welche Sprache sprichst du zuhause?</i>]

Coding: 1 = German, 2 = another language, 3 = German and another language

Language	N
German	342
Another Language	46
German and Another Language	192
Missing	26

3.5. Sports Club Membership

Item Names: SVM
 Timepoints: T1, T2, T3

Variable	Formulation <i>[Original]</i>
SVM	Are you a member of a sports club? <i>[Bist du Mitglied in einem Sportverein?]</i>

Coding: 1 = current member, 2 = former member, 3 = no member

Sports Club Membership	T1	T2	T3
Current member	403	357	382
Former member	94	107	87
No member	52	41	35
Missing	21	12	16

3.6. Sports Activity Time

Item Names: FZS
 Timepoints: T1, T2, T3

Variable	Formulation <i>[Original]</i>
FZS	How often do you regularly do sport in your free time during the week? Include all sports, but not physical education! <i>[Wie oft treibst du regelmäßig in der Woche in deiner Freizeit Sport? Zähle dafür allen Sport mit, aber nicht den Sportunterricht!]</i>

Coding: 1 = less than 1 hour per week, 2 = 1-2 hours per week,
 3 = 2-4 hours per week, 4 = more than 4 hours per week

Sports Activity Time	T1	T2	T3
Less than 1 hour	33	20	19
1-2 hours	108	106	78
2-4 hours	168	152	147
More than 4 hours	237	223	258
Missing	24	16	18

3.7. Primary School Physical Education Grade

Item Names: GSN

Timepoints: T1

Variable	Formulation [<i>Original</i>]
GSN	What was your last sports grade on your report card at primary school? <i>[Was war deine letzte Sportnote auf dem Zeugnis auf der Grundschule?]</i>

Coding: 1.0 = 1, 1.5 = 1-2, 2.0 = 2, 2.5 = 2-3, 3.0 = 3, 3.5 = 3-4, 4 = 4, 4.5 = 4-5,
5 = 5, 6 = 6

Grade	N
1	280
1-2	21
2	211
2-3	9
3	38
3-4	0
4	1
4-5	0
5	1
6	0
Missing	45

3.8. Half-Year Physical Education Grade

Item Names: HJN

Timepoints: T2

Variable	Formulation <i>[Original]</i>
GSN	What was your sports grade on your half-year report? <i>[Was war deine Sportnote auf dem Halbjahreszeugnis?]</i>

Coding: 1.0 = 1, 1.3 = 1-, 1.5 = 1-2, 1.7 = 2+, 2.0 = 2, 2.3 = 2-, 2.5 = 2-3, 2.7 = 3+, 3.0 = 3, 3.3 = 3-, 3.5 = 3-4, 3.7 = 4+, 4 = 4, 4.3 = 4-, 4.5 = 4-5, 5 = 5, 6 = 6

Grade	N
1	72
1-	18
1-2	100
2+	22
2	136
2-	9
2-3	55
3+	4
3	47
3-	4
3-4	9
4+	0
4	2
4-	0
4-5	0
5	0
6	0
Missing	39

4. Network Generators

4.1. Friendship

Item Names: FR
 Timepoints: T1, T2, T3
 Max. Nominations: 5

Variable	Formulation [<i>Original</i>]
FR	Which of your classmates are your best friends? <i>[Welche deiner Mitschüler:innen sind deine besten Freund:innen?]</i>

Network Indices	T1	T2	T3
	M (SD)	M (SD)	M (SD)
Density	0.14 (0.02)	0.14 (0.03)	0.14 (0.02)
Reciprocity	0.61 (0.09)	0.59 (0.13)	0.61 (0.11)
Centralization	0.11 (0.03)	0.11 (0.02)	0.10 (0.03)
Average Indegree	3.54 (0.50)	3.50 (0.73)	3.58 (0.54)

	T1 → T2	T2 → T3	T1 → T3
Jaccard Index	0.46 (0.08)	0.47 (0.09)	0.40 (0.08)

4.2. Sports Game

Item Names: SP
 Timepoints: T1, T2, T3
 Max. Nominations: 10

Variable	Formulation <i>[Original]</i>
SP	Which classmates would you particularly like to play in a team with? <i>[Mit welchen Mitschüler:innen möchtest du besonders gerne in einer Mannschaft spielen?</i>

Network Indices	T1 M (SD)	T2 M (SD)	T3 M (SD)
Density	0.29 (0.04)	0.27 (0.06)	0.27 (0.03)
Reciprocity	0.55 (0.08)	0.51 (0.12)	0.53 (0.10)
Centralization	0.19 (0.03)	0.21 (0.05)	0.20 (0.04)
Average Indegree	7.33 (1.13)	6.87 (1.47)	6.83 (0.95)

Jaccard Index	T1 → T2	T2 → T3	T1 → T3
	0.47 (0.07)	0.48 (0.07)	0.44 (0.06)

4.3. Group Work

Item Names: GA
 Timepoints: T1, T2, T3
 Max. Nominations: 10

Variable	Formulation <i>[Original]</i>
GA	Which classmates would you particularly like to work with in a group? <i>[Mit welchen Mitschüler:innen würdest du besonders gerne in einer Gruppe zusammenarbeiten?]</i>

Network Indices	T1 M (SD)	T2 M (SD)	T3 M (SD)
Density	0.22 (0.04)	0.21 (0.05)	0.22 (0.03)
Reciprocity	0.50 (0.09)	0.47 (0.12)	0.52 (0.10)
Centralization	0.18 (0.05)	0.17 (0.04)	0.18 (0.04)
Average Indegree	5.62 (1.04)	5.38 (1.35)	5.58 (0.83)

Jaccard Index	T1 → T2	T2 → T3	T1 → T3
	0.40 (0.07)	0.41 (0.07)	0.37 (0.06)

4.4. Performance Nominations

Item Names: GutSuS, GleichSuS, SchwachSuS

Timepoints: T1, T2, T3

Max. Nominations: 10

Variable	Formulation <i>[Original]</i>
GutSuS	Which classmates are particularly good at PE? <i>[Welche Mitschüler:innen sind besonders gut im Sportunterricht?]</i>
GleichSuS	Which classmates are just as good as you in PE? <i>[Welche Mitschüler:innen sind genauso gut wie du im Sportunterricht?]</i>
SchwachSuS	Which classmates are not so good at PE? <i>[Welche Mitschüler:innen sind nicht so gut im Sportunterricht?]</i>

Network	Network Indices	T1	T2	T3
		M (SD)	M (SD)	M (SD)
GutSuS	Density	0.21 (0.03)	0.19 (0.04)	0.2 (0.04)
	Reciprocity	0.29 (0.07)	0.28 (0.08)	0.25 (0.11)
	Centralization	0.27 (0.04)	0.28 (0.05)	0.27 (0.06)
	Average Indegree	5.24 (0.79)	4.92 (1.05)	5.10 (0.99)
GleichSuS	Density	0.13 (0.02)	0.13 (0.03)	0.14 (0.02)
	Reciprocity	0.32 (0.08)	0.31 (0.07)	0.29 (0.07)
	Centralization	0.15 (0.04)	0.16 (0.03)	0.16 (0.03)
	Average Indegree	3.41 (0.63)	3.35 (0.87)	3.45 (0.69)
SchwachSuS	Density	0.10 (0.04)	0.10 (0.03)	0.13 (0.04)
	Reciprocity	0.07 (0.09)	0.07 (0.07)	0.08 (0.05)
	Centralization	0.19 (0.06)	0.19 (0.06)	0.22 (0.07)
	Average Indegree	2.54 (0.97)	2.63 (0.93)	3.19 (1.08)

Jaccard Index	T1 → T2	T2 → T3	T1 → T3
GutSuS	0.36 (0.06)	0.38 (0.05)	0.34 (0.06)
GleichSuS	0.26 (0.04)	0.27 (0.06)	0.23 (0.05)
SchwachSuS	0.25 (0.09)	0.27 (0.06)	0.23 (0.06)

Peer Score

From the nominations of high performing and low performing students, a score is calculated representing the classes opinion of the student's physical ability. This is done by subtracting standardized indegree of the low performing network from the standardized indegree of the high performing network creating a measure that ranges from -1 to 1.

PS_std	T1	T2	T3
M	0.11	0.09	0.08
SD	0.27	0.27	0.32
Median	0.11	0.09	0.07
N	578	578	578

4.5. Sports Club

Item Names: SV
 Timepoints: T1, T2, T3
 Max. Nominations: 10

Variable	Formulation [Original]
SV	Which classmates do you go to a sports club with? <i>[Mit welchen Mitschüler:innen gehst du zusammen in einen Sportverein?]</i>

Network Indices	T1 M (SD)	T2 M (SD)	T3 M (SD)
Density	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)
Reciprocity	0.59 (0.21)	0.55 (0.26)	0.55 (0.28)
Centralization	0.09 (0.05)	0.10 (0.06)	0.12 (0.06)
Average Indegree	0.72 (0.56)	0.77 (0.49)	0.85 (0.60)

Jaccard Index	T1 → T2	T2 → T3	T1 → T3
	0.42 (0.23)	0.38 (0.23)	0.35 (0.21)

4.6. Leisure Activities

Item Names: FZ
 Timepoints: T1, T2, T3
 Max. Nominations: 10

Variable	Formulation [Original]
FZ	Which classmates do you go to other leisure activities with (e.g. music lessons, scouts)? <i>[Mit welchen Mitschüler:innen gehst du zusammen zu anderen Freizeitangeboten (z.B. Musikunterricht, Pfadfinder)?]</i>

Network Indices	T1 M (SD)	T2 M (SD)	T3 M (SD)
Density	0.03 (0.01)	0.03 (0.01)	0.04 (0.02)
Reciprocity	0.31 (0.16)	0.23 (0.17)	0.30 (0.23)
Centralization	0.11 (0.04)	0.11 (0.05)	0.12 (0.05)
Average Indegree	0.73 (0.34)	0.78 (0.40)	0.90 (0.55)

Jaccard Index	T1 → T2	T2 → T3	T1 → T3
	0.22 (0.14)	0.24 (0.14)	0.16 (0.11)

4.7. Primary School

Item Names: GS
Timepoints: T1
Max. Nominations: 20

Variable	Formulation [Original]
GS	Which classmates were you in the same class with in primary school? <i>[Mit welchen Mitschüler innen warst du in der Grundschule zusammen in einer Klasse?]</i>

Network Indices	T1
	M (SD)
Density	0.1 (0.06)
Reciprocity	0.75 (0.22)
Centralization	0.15 (0.08)
Average Indegree	2.69 (1.73)

5. Scales

5.1. Self-concept in Physical Education

Source: adapted from Seiler (2019)
 Timepoints: T1, T2, T3
 Item Names: FSK

Variable	Formulation [Original]
FSK_01	I am very good in physical education <i>[Ich bin sehr gut im Sportunterricht.]</i>
FSK_02	I'm at least as good at physical education as others my age. <i>[Ich bin im Sportunterricht mindestens genauso gut wie andere in meinem Alter.]</i>
FSK_03	I don't usually do so well in physical education. <i>[Im Sportunterricht schneide ich normalerweise nicht so gut ab.]</i> (n)
FSK_04	I need more time than the others to learn movements in physical education. <i>[Ich brauche mehr Zeit als die anderen, um Bewegungen im Sportunterricht zu erlernen.]</i> (n)
FSK_05	I'm just not good at physical education. <i>[Ich bin im Sportunterricht einfach nicht gut.]</i> (n)
FSK_06	I find physical education more difficult than the others in my class. <i>[Das Fach Sport fällt mir schwerer als den anderen meiner Klasse.]</i> (n)

Coding: 1 = stimmt nicht, 2 = stimmt kaum, 3 = stimmt ziemlich,
 4 = stimmt genau

Recoded Items: FSK_03, FSK_04, FSK_05, FSK_06

Scale Measure	T1	T2	T3
M	3.48	3.45	3.45
SD	0.48	0.52	0.54
Median	3.67	3.50	3.67
Cronbach's α	0.81	0.84	0.86
Skewness	-1.46	-1.60	-1.70
Kurtosis	2.64	3.03	3.48
N	568	517	519

Item Measure	T1			T2			T3		
	M	SD	r _{it-i}	M	SD	r _{it-i}	M	SD	r _{it-i}
FSK_01	3.24	0.67	0.77	3.16	0.67	0.82	3.19	0.67	0.76
FSK_02	3.21	0.77	0.78	3.28	0.76	0.81	3.27	0.77	0.75

Item Measure	T1			T2			T3		
	M	SD	r _{it-i}	M	SD	r _{it-i}	M	SD	r _{it-i}
FSK_03	3.53	0.70	0.78	3.44	0.72	0.81	3.43	0.73	0.79
FSK_04	3.51	0.71	0.82	3.46	0.74	0.84	3.49	0.74	0.66
FSK_05	3.70	0.62	0.77	3.69	0.65	0.80	3.66	0.68	0.80
FSK_06	3.69	0.59	0.76	3.65	0.68	0.80	3.66	0.67	0.80

5.2. Self-concept of Peer Relationships

Source: adapted from Arens et al. (2011)

Timepoints: T1, T2, T3

Item Names: SSK

Variable	Formulation [Original]
SSK_01	I have a lot of friends in my class. <i>[Ich habe viele Freund:innen in meiner Klasse.]</i>
SSK_02	I easily make new friends in my class. <i>[Ich finde leicht neue Freund:innen in meiner Klasse.]</i>
SSK_03	I get on well with other children in my class. <i>[Ich komme mit anderen Kindern meiner Klasse gut aus.]</i>
SSK_04	It is easy to like me. <i>[Es ist leicht, mich zu mögen.]</i>
SSK_05	Other children in my class would like to have me as a friend. <i>[Andere Kinder meiner Klasse möchten mich gern als Freund:in haben.]</i>
SSK_06	I have more friends than most of the other children in my class. <i>[Ich habe mehr Freund:innen als die meisten anderen Kinder aus meiner Klasse.]</i>
SSK_07	I am popular with other children in my class. <i>[Bei anderen Kindern in meiner Klasse bin ich beliebt.]</i>
SSK_08	Most of the other children in my class like me. <i>[Die meisten anderen Kinder meiner Klasse mögen mich.]</i>
SSK_09	Most of the other children in my class have more friends than me. <i>[Die meisten anderen Kinder meiner Klasse haben mehr Freund:innen als ich.]</i> (n)

Coding: 1 = trifft nicht zu, 2 = trifft eher nicht zu, 3 = teils teils,
4 = trifft eher zu, 5 = trifft zu

Recoded Items: SSK_09

Scale Measure	T1	T2	T3
M	3.55	3.56	3.59
SD	0.76	0.72	0.75
Median	3.67	3.67	3.67
Cronbach's α	0.88	0.88	0.89
Skewness	-0.51	-0.55	-0.66
Kurtosis	-0.08	0.35	0.52
N	569	516	517

Item Measure	T1			T2			T3		
	M	SD	r _{it-i}	M	SD	r _{it-i}	M	SD	r _{it-i}
SSK_01	4.15	1.05	0.87	4.19	1.01	0.86	4.22	1.03	0.87
SSK_02	3.88	1.17	0.86	3.86	1.07	0.86	3.79	1.16	0.87
SSK_03	4.32	0.88	0.88	4.27	0.84	0.87	4.24	0.89	0.89
SSK_04	3.61	0.93	0.87	3.57	0.92	0.86	3.60	0.92	0.88
SSK_05	3.46	1.06	0.86	3.34	0.98	0.86	3.32	0.96	0.87
SSK_06	2.76	1.13	0.87	2.85	1.09	0.87	2.87	1.09	0.88
SSK_07	2.98	1.07	0.86	3.09	1.05	0.86	3.11	1.06	0.88
SSK_08	3.54	1.04	0.86	3.56	0.94	0.86	3.58	0.94	0.88
SSK_09	3.16	1.14	0.87	3.24	1.12	0.87	3.45	1.14	0.88

5.3. Satisfaction with Peer Relationships

Source: own scale
 Timepoints: T1, T2, T3
 Item Names: ZPB

Variable	Subscale	Formulation <i>[Original]</i>
ZPB_01	Quantity	I am happy with the number of friends in my class. <i>[Ich bin zufrieden mit der Anzahl an Freund:innen in meiner Klasse.]</i>
ZPB_02	Quality	I would like to have better friendships in my class. <i>[Ich würde gerne bessere Freundschaften in meiner Klasse haben.]</i>
ZPB_03	Quantity	Sometimes I wish I had more friends in my class. <i>[Manchmal wünsche ich mir mehr Freund:innen in meiner Klasse.]</i>
ZPB_04	Quality	I have the feeling that I have good friends in my class]. <i>[Ich habe das Gefühl, gute Freund:innen in meiner Klasse zu haben.]</i>

Coding: 1 = trifft nicht zu, 2 = trifft eher nicht zu, 3 = teils teils,
 4 = trifft eher zu, 5 = trifft zu
 Recoded Items: ZPB_02, ZPB_03

Scale Measure	T1	T1	T1	T2	T2	T2	T3	T3	T3
	quanti	quali	total	quanti	quali	total	quanti	quali	total
M	4.17	4.15	4.16	4.22	4.22	4.22	4.20	4.30	4.25
SD	0.88	0.97	0.84	0.83	0.87	0.77	0.88	0.85	0.79
Median	4.50	4.50	4.33	4.50	4.50	4.50	4.50	4.50	4.50
Cronbach's α	0.63	0.43	0.74	0.60	0.46	0.73	0.65	0.54	0.77
Skewness	-1.00	-1.19	-1.12	-1.09	-1.19	-1.07	-1.12	-1.27	-1.22
Kurtosis	0.39	0.82	0.79	0.85	1.13	0.94	0.61	1.16	1.04
N	560	563	563	510	510	510	514	514	514

Subscale	Item Measure	T1			T2			T3		
		M	SD	r _{it-i}	M	SD	r _{it-i}	M	SD	r _{it-i}
Quantity	ZPB_01	4.61	0.84	0.46	4.61	0.77	0.43	4.65	0.72	0.86
Quantity	ZPB_03	3.70	1.36	0.46	3.82	1.26	0.43	3.94	1.23	0.86
Quality	ZPB_02	3.74	1.32	0.27	3.86	1.24	0.30	3.87	1.22	0.83
Quality	ZPB_04	4.59	0.86	0.27	4.58	0.80	0.30	4.53	0.89	0.83

5.4. Sport Ability Beliefs

Source: adapted from Biddle et al. (2003)
 Timepoints: T1, T2, T3
 Item Names: GFM

Variable	Subscale	Formulation [Original]
GFM_01	Fixed Mindset	To be good at physical education, you have to be talented. <i>[Um im Sportunterricht gut zu sein, muss man talentiert sein.]</i>
GFM_02	Growth Mindset	You have to learn and work hard to be good at sport. <i>[Man muss lernen und hart arbeiten, um im Sport gut zu sein.]</i>
GFM_03	Fixed Mindset	To be good at physical education, you have to be born with the basic qualities that enable you to succeed. <i>[Um im Sportunterricht gut zu sein, muss man mit den grundlegenden Eigenschaften geboren werden, die einem Erfolg ermöglichen.]</i>
GFM_04	Growth Mindset	To do well in sports lessons, you have to go through training phases. <i>[Um im Sportunterricht gut zu sein, muss man Trainingsphasen durchlaufen.]</i>
GFM_05	Growth Mindset	How well you do in PE lessons will always improve if you work on it. <i>[Wie gut man im Sportunterricht ist, wird sich immer verbessern, wenn man daran arbeitet.]</i>
GFM_06	Fixed Mindset	It's hard to change how good you are in PE lessons. <i>[Es ist schwer zu ändern, wie gut man im Sportunterricht ist.]</i>
GFM_07	Fixed Mindset	To be good at PE, you have to be a natural. <i>[Um im Sportunterricht gut zu sein, muss man ein Naturtalent sein.]</i>
GFM_08	Growth Mindset	If you work hard in sports lessons, you get better and better. <i>[Wenn man im Sportunterricht hart arbeitet, wird man immer besser.]</i>

Coding: 1 = stimme überhaupt nicht zu, 2 = stimme nicht zu, 3 = teils teils, 4 = stimme zu, 5 = stimme voll und ganz zu

Recoded Items: none

Scale Measure	T1	T1	T2	T2	T3	T3
	GM	FM	GM	FM	GM	FM
M	3.84	2.22	3.86	2.04	3.88	2.00
SD	0.63	0.66	0.70	0.70	0.70	0.70

Median	3.75	2.25	4.00	2.00	4.00	2.00
Cronbach's α	0.61	0.57	0.66	0.64	0.67	0.65
Skewness	-0.22	0.52	-0.59	1.07	-0.54	1.00
Kurtosis	-0.27	0.45	0.73	2.12	0.37	1.69
N	412	412	459	458	469	469

Subscale	Item Measure	T1			T2			T3		
		M	SD	r_{it-i}	M	SD	r_{it-i}	M	SD	r_{it-i}
Growth Mindset	GFM_02	3.28	1.10	0.48	3.33	1.13	0.53	3.33	1.13	0.73
Growth Mindset	GFM_04	3.08	1.09	0.57	3.04	1.15	0.61	3.12	1.17	0.70
Growth Mindset	GFM_05	4.58	0.63	0.56	4.56	0.71	0.64	4.57	0.72	0.72
Growth Mindset	GFM_08	4.45	0.83	0.51	4.57	0.73	0.56	4.51	0.85	0.70
Fixed Mindset	GFM_01	2.64	1.11	0.51	2.36	1.07	0.55	2.29	1.04	0.75
Fixed Mindset	GFM_03	2.10	1.00	0.41	1.86	1.02	0.47	1.93	1.07	0.73
Fixed Mindset	GFM_06	2.45	0.96	0.64	2.34	1.06	0.72	2.28	1.03	0.58
Fixed Mindset	GFM_07	1.69	0.91	0.39	1.59	0.90	0.50	1.52	0.83	0.73

5.5. Willingness to Make an Effort in Physical Education

Source: Herrmann et al. (2014)
 Timepoints: T2, T3
 Item Names: AB

Variable	Formulation [Original]
FSK_01	I always try to make an effort in sports lessons. <i>[Im Sportunterricht versuche ich mich immer anzustrengen.]</i>
FSK_02	I don't give up in PE lessons, no matter how difficult it is. <i>[Im Sportunterricht gebe ich nicht auf, egal wie schwierig es ist.]</i>
FSK_03	I always try to do the best I can in sports lessons. <i>[In Sportunterricht versuche ich immer, das Beste herauszuholen, das mir möglich ist.]</i>
FSK_04	I always give my all in sports lessons. <i>[Im Sportunterricht arbeite ich immer mit vollem Einsatz mit.]</i>
FSK_05	In PE lessons, I only do what I absolutely have to do. <i>[Im Sportunterricht mache ich nur das, was ich unbedingt machen muss.]</i>

Coding: 1 = stimmt nicht, 2 = stimmt kaum, 3 = stimmt ziemlich,
 4 = stimmt genau

Recoded Items: AB_05

Scale Measure	T2	T3
M	3.24	3.23
SD	0.46	0.45
Median	3.30	3.20
Cronbach's α	0.69	0.67
Skewness	-0.42	-0.45
Kurtosis	0.22	0.69
N	503	477

Item Measure	T2			T3		
	M	SD	r_{it-i}	M	SD	r_{it-i}
AB_01	3.60	0.58	0.61	3.53	0.61	0.72
AB_02	3.29	0.67	0.60	3.23	0.68	0.72
AB_03	3.51	0.64	0.56	3.47	0.64	0.79
AB_04	3.29	0.64	0.56	3.19	0.65	0.76
AB_05	2.52	1.03	0.81	2.71	0.97	0.31

- Item 5 seems like it was misunderstood by many students, and it improves the inter-correlation of the remaining items a lot when removed. This could be relevant for the analyses.

5.6. Other Approach

Source:

Timepoints: T1, T2, T3

Item Names: OA

Variable	Subscale	Formulation [Original]
OA_01	Approach	It is important for me to be better than others. <i>[Es ist wichtig für mich, besser als andere zu sein.]</i>
OA_02	Approach	It's important for me to do well compared to others. <i>[Es ist wichtig für mich, im Vergleich zu anderen gut abzuschneiden.]</i>
OA_03	Approach	My goal is to be better than most of the other players. <i>[Mein Ziel ist es, besser als die meisten anderen Spieler:innen zu sein.]</i>
OA_04	Avoidance	I just want to avoid doing worse than others. <i>[Ich möchte nur vermeiden, dass ich schlechter als andere abschneide.]</i>
OA_05	Avoidance	My aim is to avoid doing worse than everyone else. <i>[Mein Ziel ist es, zu vermeiden, schlechter als alle anderen abzuschneiden.]</i>
OA_06	Avoidance	It's important for me to avoid being the worst person in the group. <i>[Es ist wichtig für mich, zu vermeiden, dass ich nicht der/die Schlechteste in der Gruppe bin.]</i>

Coding:

Recoded Items: none

Scale Measure	T1 approach	T1 avoidance	T2 approach	T2 avoidance	T3 approach	T3 avoidance
M	3.48	3.45	3.48	3.45	3.45	3.45
SD	0.48	0.52	0.48	0.52	0.54	0.54
Median	3.67	3.50	3.67	3.50	3.67	3.67
Cronbach's α	0.81	0.84	0.81	0.84	0.86	0.86
Skewness	-1.46	-1.60	-1.46	-1.60	-1.70	-1.70
Kurtosis	2.64	3.03	2.64	3.03	3.48	3.48
N	568	517	568	517	519	519

Subscale	Item Measure	T1			T2			T3		
		M	SD	r _{it-i}	M	SD	r _{it-i}	M	SD	r _{it-i}
Approach	OA_01	2.61	1.70	0.68	2.97	1.86	0.76	3.11	1.88	0.89
Approach	OA_02	4.00	1.90	0.80	4.36	1.90	0.83	4.39	1.87	0.85
Approach	OA_03	3.41	2.04	0.70	3.68	2.08	0.70	3.68	1.98	0.90
Avoidance	OA_04	4.72	1.98	0.65	5.07	2.01	0.73	4.85	1.95	0.88
Avoidance	OA_05	4.69	2.11	0.62	4.94	2.18	0.77	4.85	2.06	0.88
Avoidance	OA_06	5.49	1.74	0.73	5.64	1.82	0.76	5.50	1.82	0.87

6. Teacher Questionnaire

6.1. Gender

w = 11, M = 10, Missing = 4

6.2. Teaching Experience

TBA

6.3. Student Rating of Physical Ability

LBL	T1	T2	T3
M	4.16	4.22	4.11
SD	1.24	1.22	1.31
Median	4.00	4.00	4.00
N	512	443	546

6.4. Responsibility of Students' Peer Relationships

TBA