



Development and pilot evaluation of a social and emotional learning programme using a multifaceted participatory approach

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Promoting emotional and social learning in schools is a promising strategy for the universal prevention of mental health issues in children and adolescents. Participatory approaches may enhance the ecological validity and acceptability of such interventions, but evidence on their effectiveness remains limited. This study adopted a participatory action research framework to co-develop a school-based intervention. Using Intervention Mapping, teachers, students, parents/caregivers, and university researchers conceptualized eleven classroom tools targeting emotional and social learning. Emotional competence, social competence, and acceptability were assessed at pre-intervention, post-intervention, and four-week follow-up. Linear mixed-effects models were used to analyze changes over time compared with a control group. A total of 137 students ($M = 13.4$ years, $SD = 2.2$) participated. The participatory process was rated positively; however some challenges were reported. An increase of negative beliefs about emotions and decline in social orientation were observed in the intervention group. Acceptability ratings indicated moderate satisfaction. While participatory co-development proved feasible and was valued by stakeholders, the intervention showed no positive effects on student outcomes or any potential unintended side effects. Findings underscore the sensitivity of addressing emotional awareness in schools and the need for stronger student leadership and long-term evaluation in future prevention efforts.

Keywords: participatory action research, universal prevention, school, social emotional learning, programme

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1

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Introduction

Universal prevention measures aim to prevent mental health problems and promote well-being in entire populations, rather than targeting only at-risk individuals. These approaches frequently emphasize strengthening resilience, conceptualized as an interactive process in which protective factors, such as social and emotional skills, shape how individuals respond to risks (Rutter, 1987). The school context is particularly well suited for universal prevention because schools provide access to children and adolescents across all sociodemographic backgrounds. Schools offer a stable and structured environment that facilitates consistent implementation over time. Moreover, they provide opportunities to practice social and emotional skills in daily interactions and benefit from group learning and peer modeling. According to the United Nations (2021), children have the right to the highest attainable standard of mental health, including access to appropriate care, protection from harm, participation in decisions affecting their well-being, and support for recovery and healthy development without discrimination. Scientific evidence emphasizes that education needs to extend beyond academic achievement to include the development of social and emotional competencies, which are critical for both lifelong well-being and academic success (Cipriano et al., 2023).

Universal prevention programmes in schools frequently adopt social and emotional learning (SEL) approaches (Cipriano et al., 2023). SEL is an umbrella term encompassing a wide range of structured educational frameworks and models. Among these, the CASEL-5 framework (Collaborative for Academic, Social, and Emotional Learning, 2024) is one of the most widely used, outlining five core domains of social and emotional competence: self-awareness (e.g. recognizing emotions), self-management (e.g. regulating emotions and behaviors), social awareness (e.g. empathy and respect for others), relationship skills (e.g. effective communication and conflict resolution), and responsible decision-making (e.g. evaluating the consequences of actions). SEL has been shown to improve social and emotional skills, coping strategies, academic performance, school climate, peer relationships, teacher–student relationships, school functioning, safety, and long-term mental health outcomes (Cipriano et al., 2023; Sklad et al., 2012; Taylor et al., 2017).

Evidence-based programmes for the universal prevention of mental health issues are frequently developed in academic contexts and implemented in schools by researchers who specify the delivery setting (Werner-Seidler et al., 2021). However, data on programme sustainability after the conclusion of research projects remain scarce (Durlak & DuPre, 2008), and evidence indicates that many interventions are not sustained once initial funding ends (Moore et al., 2022). Factors that facilitate implementation and sustainability include compatibility between the intervention and the school environment, strong engagement of school staff, leadership support, and effective communication within the school and its broader context (Schäfer et al., 2025). Teachers have also highlighted the importance of collaboration with mental health professionals and embedding researchers within school settings (Neill et al., 2021). A range of barriers, including financial, time, and personnel constraints, as well as limited institutional support, can hinder sustainable implementation (Schäfer et al., 2025).

One promising approach to strengthening implementation is participatory action research, which involves conducting research *with* participants rather than *on* them. This cyclical process integrates reflection, action, and participation to address context-specific problems, with data collection, analysis, and implementation occurring iteratively to refine both understanding and interventions (Baum et al., 2006). Collaborative engagement with children and adolescents has been associated with high feasibility and acceptability of interventions (Waters et al., 2022). Participatory approaches can increase ecological validity, enhance transferability to everyday life, and improve sustainability; they also provide valuable opportunities for researchers to develop skills in meaningfully engaging children and adolescents throughout the research process (Rouncefield-Swales et al., 2021). In addition, participatory research highlights the importance of aligning programmes with the needs of teachers and students. Engaging teachers in the development of school-based interventions provides valuable insights into facilitators and barriers to programme implementation. Teacher encouragement of student participation in health promotion planning and implementation, as perceived by students, has been linked to long-term improvements in participatory skills, collective efficacy, and outcome expectancy, though not necessarily to school satisfaction (Torsheim & Samdal, 2004).

Overall, several foundational principles have guided discussions regarding the role of schools and educational systems in fostering students' mental health and well-being (Cefai et al., 2024). Effective mental health promotion requires a systemic, whole-school approach that integrates SEL into everyday classroom practices, school climate, and partnerships with families and communities. Such approaches not only enhance individual competencies but also strengthen protective factors, including social connectedness and a sense of belonging as key determinants of positive developmental trajectories. Furthermore, universal, strengths-based, and inclusive SEL interventions ensure equitable access to mental health promotion, particularly benefiting vulnerable and marginalized students. A participatory, bottom-up approach to mental health promotion is crucial for fostering ownership and engagement among teachers and students. In addition, adults' well-being (e.g., parents/caregivers and teachers) should be addressed, as it has a significant impact on the mental health and well-being of children and adolescents. Teachers' social and emotional competences play a critical role in SEL implementation quality and student outcomes (Gebre et al., 2025; Jennings & Greenberg, 2009; Shi & Cheung, 2024). However, there is evidence that few teachers reflect on their own social and emotional competences or are aware of their influence on SEL intervention quality (Martinsone & Damberg, 2017). Given the crucial role of teachers in delivering SEL, it is important to also address teachers' own social and emotional competencies within SEL interventions.

The current study

The present study adopts a participatory approach to intervention development and evaluation to address these challenges. The study was initiated by teachers, with other stakeholders involved at multiple levels. Intervention Mapping (Bartholomew et al., 1998) has proven to be an effective framework for designing interventions focused on social and emotional learning in children and adolescents (O'Connor et al., 2018a; Walker et al., 2025). It is likely to increase acceptability and implementation success, as it is grounded in

students' needs, integrates evidence-based information linked to programme outcomes and efficacy, and adopts a participatory approach (O'Connor et al., 2018b).

The aims of the study were: (1) to identify students' needs, (2) to conceptualize an intervention to enhance social and emotional skills, (3) to evaluate the collaborative development process, and (4) to assess the impact of the intervention. Aims 1 and 2 are addressed in Part I, while aims 3 and 4 are addressed in Part II of the present study.

Part I Conceptualization

Methods

Participants

The research team comprised the lead teacher-researcher, ten additional teacher-researchers, three student researchers, two parent/caregivers researchers and two university researchers. All teachers at the school were contacted and those who were interested participated in the design process. The students were members of the student council and decided voluntarily whether they wanted to participate. They did not take part in the evaluation of the intervention themselves. All parents/caregivers of the parent's council were contacted and those who were interested participated.

Study Design

The initiative for the study originated within the school. The lead teacher researcher approached the university researchers. In an initial online meeting, the lead teacher outlined the study's aims and context. A total of 19 meetings were held during the conceptualization phase. We applied Intervention Mapping, a planning framework that provides a systematic, stepwise protocol for developing, implementing, and evaluating interventions (Bartholomew et al., 1998). This approach is particularly useful in school-based mental health programmes, as it ensures that interventions are theoretically grounded, contextually tailored, and aligned with the needs of students. A written record was produced for each meeting. An overview of participative engagement is given in Table A1, Appendix) using the Guidance for Reporting Involvement of Patients and the Public reporting check list (GRIPP-2). The content of the meetings is summarized in Table A2 (Appendix). We applied Affinity mapping to assess students' needs for an intervention aiming to improve social and emotional skills.

Ethical Considerations

The study adhered to common ethical principles of participatory research (INVOLVE, 2021). Approval was obtained from the local ethics committee (#LEK_498). All participants were actively involved in decision-making. Following Hart's ladder of participation (1992), the study was classified as adult-initiated with shared decision-making with students (level 6). Emphasis was placed on respectful communication, confidentiality, and the use of accessible language. Written informed consent was obtained from all participants in accordance with the Declaration of Helsinki, with the assurance that participation was voluntary and withdrawal possible

at any time. Meetings were scheduled during school hours to avoid encroaching on participants' free time, thereby supporting mental health and well-being. Students attended the sessions during free periods or during lessons that, in coordination with school staff. Meetings were held at school to maximize accessibility. No remuneration was provided, as activities took place during school hours. Given the hierarchical nature of school contexts—where teacher-student relationships involve dependency linked to grading—particular attention was paid to power dynamics, potential biases, and the disproportionate representation of minors. These aspects were explicitly considered and reflected upon throughout the process.

Measures

The participatory aspect was assessed through an open-ended question: “How did I feel about the collaboration in developing the intervention to strengthen emotional and social skills? Please reflect here on your experience collaborating on the design of the tools”

Data Analysis

Qualitative data were analyzed using MAXQDA (VERBI Software, 2024). The analysis followed a structured qualitative content analysis approach. An initial coding framework was developed based on the research questions and relevant theoretical considerations and was iteratively refined during the coding process. All transcripts were coded by one trained researcher, who systematically applied the coding scheme across the dataset.

Results

Needs Assessment

Results of the needs assessment for the affinity mapping are reported in Table 1. Students reported a broad range of social and emotional challenges. Social challenges were most frequently identified within the domains of interpersonal tensions, rights and obligations, and one's position in society. Emotional challenges were predominantly reported in relation to identity formation, as well as coping with crises and external stressors. The original affinity maps can be found in the appendix (Figure A2, Figure A3).

The Intervention

The intervention consisted of eleven classroom tools, each designed for implementation by teachers (for an overview see Figure A1): (1) *Smartie Tool* (I set myself specific and achievable goals), (2) *Growth Tool* (When I practice, I improve), (3) *Mountaineer Tool* (I persevere, even when it gets tough), (4) *Superhero Tools* (I recognize and use my strengths), (5) *Athlete Tool* (I view mistakes as part of learning and take them in good spirit), (6) *Hammock Tool* (I take breaks to stay motivated and healthy), (7) *Magnifier Tool* (I recognize my current state and can express it), (8) *Pet Tool* (I take care of myself and others), (9) *Giraffe-Language Tool* (I communicate without hurting others), (10) *First-Aid Tool* (I know what to do when I need help), (11) *Power*

Table I

Results for affinity mapping of needs and challenges in everyday school life

Main and Subcategories	Content	Number of Topics
1 Social challenges		
- Dealing with heterogeneity	different family backgrounds, diversity, handling positive feedback	3
- Areas of tension, rights & obligations	cooperation, language barriers, dealing with mistakes (error culture in schools), performance requirement, pressure to perform, conflict resolution, social communication	7
- Position in society	role identification, sense of belonging, financial status, place in forced group (e.g. class), social belonging, dealing with labels and stereotypes	6
- Media	media as a communication tool, media consumption and its impact on communication	2
- Areas of tension in closeness & distance	Love, sexuality, puberty and developing appropriate peer relationships	4
2 Emotional challenges		
- Identity search	personality development, dealing with failure, fear mentally illness, sexual identity, sexual orientation, recognizing one own's strengths, building self-confidence, detachment from parental home/ growing up, search for meaning, search for orientation, bodily changes (puberty), dealing with external expectations, sense of belonging, problem solving skills	14
- Dealing with crises and external stressors	domestic and financial difficulties, media consumption and its impact, climate anxiety / climate crisis, war, violence, bullying, coping with crises, coping with death, inflation, coronavirus pandemic	11
- Dealing with emotions	acceptance of intense emotions, boredom stemming from powerlessness, fears (about the future, failure, rejection), insecurity/ helplessness, fear of deficits, loneliness, love	8

Tool (I take responsibility for my actions). A twelfth tool was developed after completion of the intervention: *Team Tool* (When we all contribute our strengths to the team, we can achieve much more). The selection of target areas for the intervention was guided by the SEL Casel framework. A trained teacher with expertise in SEL contributed to the process by presenting and contextualizing key SEL domains, which further informed the selection and operationalization of the intervention's main areas. The identified student-reported difficulties were mapped onto core SEL competencies, which served as an organizing framework for the programme content. The prioritization of specific areas and their translation into the 12 intervention tools resulted from an iterative, theory-informed process within the research team. This process involved critical discussion and consensus-building. A more detailed description is given in Table A3 (Appendix).

The exercises included in the tools were designed to be open-ended, allowing students to introduce topics of personal relevance while also enabling teachers to suggest topics based on their assessment of students' needs. For the pilot study, each tool was administered during a 100-minute session. The long-term goal is to conduct lessons using the 12 tools each school year, so that every student learns about social-emotional learning each school year. To facilitate the transfer of learning, the intervention was embedded in regular classroom instruction and included structured opportunities for students to apply the acquired social and emotional skills in everyday school situations (e.g., guided reflection, peer interaction, and practice-oriented exercises) based on the assessed needs. In addition to materials for students, there were also guidelines for teachers on improving their own social and emotional skills and on their role as role models.

Evaluation of the participation process

Overall, five categories associated with the evaluation of the participation process were identified :1) Overall (positive) evaluation, 2) Perceived Learning Outcome, 3) Social Climate and Interaction, 4) Implementation and Process Quality and 5) Challenges and Barriers. Further results and subcategories are reported in Table II.

Part II: Evaluation of the Intervention

Methods

Participants

Only participants who completed the questionnaire at least twice were included in analyses. The forced-choice design minimized missing data. In total, 137 students participated ($M = 13.4$ years, $SD = 2.2$, range = 10–18). Of these, 46% identified as female, 52% as male, and 1% as diverse. Sixty-seven participants were assigned to the intervention group and 70 participants to the control group Dropout rates are reported in Table III.

Study Design

Emotional and social competence was assessed for all students at three time points: baseline (pre), immediately after the intervention (post), and four weeks later (follow-up). Acceptability ratings were collected post-intervention. To match responses across time points, participants created pseudonymized codes. The intervention group (IG) included teacher researcher involved in the programme's conceptualization and their respective classes. They were chosen based on their choice and motivation to participate. A grade-level-matched class served as the control group (CG). Quantitative data were collected during scheduled sessions with the students, and they were supported by their teacher present on site. Data collection procedures were standardized across groups to ensure comparability. To reduce the influence of potential confounding variables, the intervention and control groups followed the regular curriculum during the study period.

Table II*Evaluation of participation process reflection using an open response format*

Categories	Number	Frequency			Statements	
		Total (%)	SR	TR		UR
1. Overall Evaluation	9	19%	6%	8%	4%	
1.1 Positive Evaluation	9	19%	6%	8%	4%	<i>Good project (TR), It was all good (SR)</i>
2. Perceived Learning Outcome	11	23%	12%	8%	2%	
2.1 Mental Health Knowledge	5	10%	6%	4%	0%	<i>You could learn a lot about mental health (SR)</i>
2.2 Self Awareness	2	4%	4%	0%	0%	<i>I learned a lot about myself (SR).</i>
2.3 Perceived Relevance of SEL	4	8%	2%	4%	2%	<i>I see strengthening the social-emotional skills as the key to improving our student's learning performance and thus their participation in society (TR).</i>
3. Social Climate and Interaction	15	31%	6%	12%	12%	
3.1 Emotional Safety and Comfort	4	8%	4%	0	4%	<i>I felt comfortable (SR).</i>
3.2 Quality of Discussion	6	13%	2%	6%	4%	<i>Good conversations(SR), Open-ended discussion and planning processes(TR).</i>
3.3 Collaboration Quality	5	10%	0%	6%	4%	<i>The collaboration was constructive, solution-oriented and enriching (TR). The cooperation was constructive and highly motivated(UR). There was a great willingness to familiarize oneself with the topics (TR).</i>
4. Implementation and Process Quality	7	15%	2%	6%	6%	
4.1 Communication Process	4	8%	2%	4%	2%	<i>Communication was smooth and always very prompt (TR).</i>
4.2 Engagement and Motivation	3	6%	0%	2%	4%	<i>Strong commitment... from teachers (UR.)</i>
5. Challenges and Barriers	6	13%	2%	4%	6%	
5.1 Cognitive Demands and	1	2%	2%	0%	0%	<i>The questions were sometimes complicated (SR).</i>
5.2 Structural Barriers	3	6%	0	4%	2%	<i>Student involvement declined... due to time and school exams (TR).</i>
5.3 Power dynamics	2	4%	0%	0%	4%	<i>The power dynamics outside of the discussion setting were not always entirely clear from the outside (UR).</i>
<i>Note: SR = Student Researcher, TR = Teacher Researcher, UR = University Researcher. Totals may not exactly match the sums of items because of rounding.</i>						

Table III

Means and standard deviations for efficacy outcome measure of the intervention

	IG			CG		
	Pre (n = 67)	Post (n = 56)	FU (n = 33)	Pre (n = 70)	Post (n = 48)	FU (n=25)
EBQ	47.7 (17.3)	57.0 (13.9)	51.9 (13.4)	49.4 (13.6)	44.6 (13.3)	45.4 (13.9)
ITES	3.2 (0.9)	3.7 (0.7)	3.6 (0.6)	3.5 (0.7)	3.7 (0.8)	3.5 (0.8)
RESE-D						
• POS	16.3 (3.5)	15.4 (3.0)	14.1 (4.7)	16.0 (2.6)	15.7 (3.9)	15.8 (3.0)
• DES	9.4 (2.7)	9.7 (2.8)	9.5 (3.4)	9.1 (2.3)	9.9 (3.7)	8.6 (1.9)
• ANG	8.4 (3.6)	8.6 (2.8)	8.8 (4.1)	8.7 (3.1)	8.8 (4.1)	8.4 (2.0)
Social Competence						
• Social Orientation	3.8 (0.5)	3.3 (0.7)	3.3 (0.7)	3.8 (0.6)	3.5 (0.7)	4.0 (0.5)
• Social Initiative	3.3 (0.8)	3.0 (0.7)	2.7 (0.7)	3.2 (0.7)	3.0 (1.1)	3.2 (0.6)

Note: IG = intervention group, CG = control group, EBQ = Emotion Beliefs Questionnaire, ITES = Implicit Theories of Emotion Scale, RESE-D = Regulatory Emotional Self-Efficacy -German Version, POS = expression of positive emotions, DES = coping with stress/dependency, ANG = dealing with anger

Measures

Emotional Competence

Emotion Beliefs Questionnaire (EBQ; Becerra et al., 2020), German version (Gutzweiler & Grüning, 2025): 16 items assessing beliefs about the controllability and usefulness of emotions. Items (e.g., “Once you feel negative emotions, you can no longer change them”) were rated on a 7-point scale (1 = strongly disagree, 7 = strongly agree). Higher scores reflected more maladaptive beliefs. The EBQ demonstrated good internal consistency (Cronbach Alpha = 0.88).

Implicit Theories of Emotion Scale (ITES; Tamir et al., 2007), German version (Grüning & Gutzweiler, 2023): four items assessing whether emotions are viewed as malleable (incremental) or fixed (entity). Rated on a 5-point scale (1 = strongly disagree, 5 = strongly agree). The ITES demonstrated good internal consistency (Cronbach Alpha = 0.80).

Regulatory Emotional Self-Efficacy (RESE; Caprara et al., 2008), German version (Gutzweiler et al., 2023): 10 items measuring perceived self-efficacy in emotion regulation. Rated on a 5-point scale (1 = not at all good, 5 = very good). Subscales: expression of positive emotions, dealing with anger, and coping with stress/dependency. Internal consistency was acceptable -good for the subscales (Cronbach Alpha = 0.72- 0.81).

Social Competence. Assessed using two subscales of the Social Competence Questionnaire (Jurkowski & Hänze, 2014): Social Orientation (12 items) and Social Initiative (11 items). Items were rated on a 5-point scale (1 = does not apply, 5 = fully applies). Both scales demonstrated good internal consistency (Cronbach Alpha = 0.83).

Student Acceptability. Measured via a self-designed questionnaire tailored to prevention programmes (Pfeiffer et al., 2019). Additionally, students graded the intervention on the German school grades scale (1 = very good to 6 = unsatisfactory).

Implementation fidelity was assessed using an adapted version of a questionnaire based on Askel-Williams et al (2013) which was modified to align with the specific content and structure of the present intervention. Items were rated on a 7-point Likert scale (1 = does not apply, 7 = fully applies) (see Table A3 in Appendix)

Ethics approval

Ethical approval was obtained from the university's local ethics committee. Participants were informed of the study's purpose and procedures and provided written informed consent in accordance with the Declaration of Helsinki.

Data Analysis

Analyses were conducted in RStudio (Version 2024.12.0+467). Linear mixed-effects models (LMMs) were fitted separately for all outcomes, with fixed effects for Condition (IG vs. CG), Time (T1, T2, T3), and their interaction. Random intercepts accounted for repeated measures. Post hoc comparisons were estimated using *emmeans* with Bonferroni-Holm corrections. Main effects of time were tested first, followed by pairwise contrasts across conditions and time points.

Results

The LMM was estimated using maximum likelihood (ML) with Kenward–Roger approximations. Model fit indices: AIC = 932.8, BIC = 949.9, log-likelihood = -460.4. The LMM results are provided in Table IV. The two groups did not differ in terms of baseline-levels of EBQ ($p = 0.60$), ITES ($p = 0.25$), RESE_POS ($p = 0.62$), RESE_DES ($p = 0.32$), RESE_ANG ($p = 0.80$), Social Orientation ($p = 0.75$) and Social Initiative ($p = 0.70$).

Post hoc analyses of the EBQ revealed significant group difference at post-intervention ($p = .02$), with the IG reporting fewer positive beliefs than the CG; however, pre–post changes were nonsignificant in adjusted comparisons ($p = .05$). ITES maladaptive entity beliefs decreased from pre- to post-intervention in the IG ($p = .02$), but the group difference was nonsignificant ($p = .05$). Social Orientation: decreased in the IG from pre–post ($p = .01$) and pre–follow-up ($p < .001$), though differences from the CG were nonsignificant. Acceptability ratings are reported in Table V. Students graded the intervention with a mean of 3.3 ($SD = 1.5$), corresponding to “satisfactory”.

Table IV

Linear Mixed-Effects Models Analyzing Changes Between Pre-, Post-, and Follow-up Assessments across Conditions (IG vs. CG) for emotional and social competence

Predictors	Intercept			group			time t ₁ vs. t ₂			time t ₁ vs. t ₃			group x time t ₁ vs. t ₂			group x time t ₁ vs. t ₃		
	<i>B</i>	<i>Std. B</i>	<i>p</i>	<i>B</i>	<i>Std. B</i>	<i>p</i>	<i>B</i>	<i>Std. B</i>	<i>p</i>	<i>B</i>	<i>Std. B</i>	<i>p</i>	<i>B</i>	<i>Std. B</i>	<i>p</i>	<i>B</i>	<i>Std. B</i>	<i>p</i>
EBQ	55.9	3.1	<0.001	-10.8	4.7	0.02	9.1	3.7	0.02	-10.3	6.6	0.12	-13.0	5.2	0.01	15.5	10.2	0.13
ITES	3.8	0.2	<0.001	- 0.2	0.2	0.45	0.45	0.2	<0.01	-0.8	0.3	0.01	-0.4	0.2	0.10	0.8	0.5	0.11
RESE_PO S	15.8	0.7	<0.001	- 0.4	1.0	0.71	-0.8	0.8	0.31	-1.0	1.5	0.49	0.1	1.1	0.95	2.2	2.3	0.33
RESE_DE S	9.5	0.6	<0.001	0.3	0.9	0.69	-0.3	0.6	0.66	-0.2	1.1	0.85	1.0	0.9	0.23	-1.7	1.7	0.32
RESE_AN G	8.4	0.7	<0.001	0.4	1.0	0.73	0.1	0.8	0.94	-0.0	1.4	0.99	0.1	1.1	0.92	-0.4	2.2	0.87
SO	3.4	0.1	<0.001	0.1	0.2	0.65	-0.4	0.2	0.01	0.2	0.2	0.51	0.1	0.2	0.51	0.5	0.4	0.28
SI	3.0	0.2	<0.001	- 0.0	0.2	0.86	-0.2	0.2	0.18	-0.2	0.3	0.61	0.0	0.3	0.87	0.6	0.5	0.27

Note: *B* = Beta Coefficient, *B* Std (standardized). Random Intercept Variance/Residual variance for EBQ ($\sigma^2 = 94.78/\tau_{00} = 142.35$), ITES ($\sigma^2 = 0.25/\tau_{00} = 0.30$), RESE_POS ($\sigma^2 = 4.82/\tau_{00} = 6.98$). RESE_DES ($\sigma^2 = 4.25/\tau_{00} = 3.90$), RESE_ANG ($\sigma^2 = 4.88/\tau_{00} = 6.45$), Social Orientation ($\sigma^2 = 0.15/\tau_{00} = 0.25$), Social Initiative ($\sigma^2 = 0.27/\tau_{00} = 0.33$),

Table V*Students' Acceptability Ratings*

Items	<i>M</i>	<i>SD</i>
1. I felt comfortable in the class during the intervention.	3.9	1.2
2. I understood the content of the intervention well.	3.8	1.3
3. The content of the intervention was helpful for my everyday life.	3.2	1.3
4. I was able to apply the content of the intervention.	3.3	1.2
5. The intervention was interesting.	3.7	1.4
6. The intervention was very suitable for my age.	3.5	1.5
7. The teacher dealt well with the topic of feelings.	3.8	1.4
8. The materials were well designed (e.g. posters).	3.8	1.6
9. The topic of the intervention is very important.	3.8	1.5
10. I would recommend the intervention to a friend.	3.4	1.6
11. I think it was good to have taken part in the intervention.	3.7	1.7
<i>Note.</i> acceptability values (1= low acceptability, 6= high acceptability, M = Mean, SD = Standard Deviation)		

Implementation fidelity ratings are reported in Supplemental Table S5 (see Appendix 1). Based on subjective estimates, the overall fidelity of implementation was rated with a mean score of 5.0 (SD = 1.6). A total of 75% indicated that the material is suitable for school class 5-6 (10-12 years) and for class 7-8 (12-14 years), and 50% for class 9-10 (14-16 years).

Discussion

The aims of this study were the participatory development (Part I) and evaluation (Part II) of an intervention designed to promote emotional and social skills in students. Adolescents reported a wide range of emotional and social challenges, which may contribute to the ecological validity of the intervention. Interventions perceived as personally meaningful are more likely to be accepted by participants and successfully implemented. Overall, the findings revealed a broad spectrum of needs. Consistent with the resilience framework proposed by Hart et al. (2007), the most salient emotional and social challenges were reported in the domains of *Belonging* (e.g., social affiliation, peer relationships), *Coping* (e.g., coping with loneliness, stereotypes, and puberty), and *Core Self* (e.g., self-esteem, identity development). Students also highlighted fundamental concerns such as fear of war, financial strain, and apprehension about future pandemics. These findings illustrate the multifaceted nature of young people's lived experiences and underscore the need for a comprehensive and systematic approach to fostering resilience in educational contexts.

Overall, the participatory development process was evaluated positively. Respectful communication and shared decision-making were particularly valued by participants. Students appreciated the initiative to address their emotional and social challenges, while the multi-stakeholder approach ensured that diverse perspectives informed the design of the intervention. This collaborative process appeared to reduce barriers to teacher involvement and enhanced the likelihood that the

intervention would be well received by students. A key decision was to implement the intervention during regular school hours by replacing a standard lesson. Teachers reported that this flexibility facilitated integration into existing timetables. The intervention was designed to address the identified emotional and social challenges while maintaining flexibility to incorporate emerging issues (e.g., using the “Magnifier Tool” to discuss war-related fears). Acceptability ratings indicated that the intervention has potential for further development.

The intervention did not improve emotional and social skills relative to the control group. Unexpectedly, less positive beliefs about emotions and a decline in social orientation were observed. These effects may represent unintended consequences. One possible explanation is a response-shift effect (Sprangers & Schwartz, 1999), whereby participants alter their internal standards or conceptualizations following the intervention, leading to less favorable self-evaluations. In this case, the results may reflect short-term adjustment processes rather than detrimental effects. However, the observed decline in social orientation and social initiative in the intervention group raises the question of whether the programme, in its current format, is optimally suited for all students within this age group and school context. Although the effects were small, they suggest that the intervention may not have functioned as intended for a subset of participants and should not be repeated in its current form. One possible explanation is that a universal, classroom-based approach may not sufficiently account for individual differences in baseline stress levels, social functioning, or emotional regulation capacity. In contexts characterized by high academic and social demands, the additional reflective and emotionally focused components of the intervention may have inadvertently increased perceived burden or stress for some students. In school environments where students already report elevated stress levels (Kaczmarek & Trambacz-Oleszak, 2021), structured discussions of emotions and social experiences may temporarily heighten self-focus or social self-consciousness. Such processes could, counterintuitively, reduce observable social initiative in the short term.

Future research should examine potential moderators (e.g., baseline stress, social anxiety, classroom climate) and assess whether adaptations in intervention intensity, timing, or delivery format improve its suitability and effectiveness. Given the naturalistic school setting, the influence of external factors (e.g., classroom dynamics, teacher characteristics) cannot be fully excluded.

Interventions aimed at strengthening social-emotional skills should be embedded within a broader systemic framework that addresses both individual competencies and structural conditions within the school environment. Beyond emphasizing academic achievement, social adjustment, and cognitive performance, schools should also address the underlying causes of emotional and social challenges (Neill et al., 2021). Given the imbalance of power, a future study should also consider revising the material, but this time with a group led exclusively by students

It is important to emphasize, however, that these findings are based on preliminary pilot data and that the four-week interval may not have been sufficient to adequately capture intervention effects.

Future research should employ more tailored and change-sensitive measures and assess outcomes using longitudinal designs.

Teachers reported moderate to high implementation quality of the IGSLO tools. Structural aspects of the intervention were rated particularly positively, with high scores for clarity of content and objectives as well as participation in training. Teachers also indicated strong acceptance and perceived value, reflected in high ratings for the importance of social-emotional learning, the perceived benefit for students, and the likelihood of continued implementation. However, contextual and feasibility-related aspects were rated less favorably. In particular, teachers reported insufficient time resources for both implementation and preparation, representing the lowest-rated items. Additionally, ratings for implementation conditions, evaluation of goal attainment, and consideration of potential challenges were comparatively lower, suggesting limitations in systematic implementation support and monitoring. Taken together, the findings indicate that while the IGSLO tools were well accepted and perceived as beneficial, their implementation was constrained by practical barriers in the school context, particularly time constraints and partially limited structural support.

Further developments after the evaluation

This project represented an important first step for the school community in identifying feasible timeframes, priority areas, and socio-emotional topics that can be effectively addressed within regular classroom instruction. The findings from the evaluation phase directly informed subsequent adaptations and the continued development of the programme. In particular, teaching staff concluded that implementing twelve tools within a three-month period was overly ambitious and not sustainable in practice. Based on these insights, the SEL toolbox has been retained but substantially revised in its implementation. Since 2024/2025, the school has progressively institutionalized a more focused and sustainable approach to social and emotional learning (SEL). For example, all fifth-grade classes now participate in a structured team-building programme led by the school social worker at the beginning of the school year. This programme consists of six sessions using the “Team Tool,” followed by a teacher-led reflection session. In addition, the first three days of each academic year are now dedicated to structured skills training, in which SEL has become an integral component. Building on prior experience, a team of teachers selects a limited number of key skills and corresponding SEL tools for each grade level (e.g., public speaking, digital research), thereby ensuring greater coherence and relevance.

A central adaptation resulting from the evaluation was the decision to reduce the number of tools and focus on only two SEL tools per school year, introduced during the initial skills training and subsequently integrated into regular teaching. Reported advantages include greater flexibility in implementation, more in-depth engagement with individual topics, the use of more diverse instructional strategies, and potentially improved retention of learning outcomes. Following the evaluation, two school-wide training days on SEL were conducted, which appear to have increased teachers’ awareness

of the importance of social and emotional learning for both academic performance and student well-being. Overall, the project served as the foundation for the school's current SEL approach, representing an iterative refinement based on empirical findings and practical experience. Given the lack of comparable prevention programmes in the German school context, the participatory involvement of students and parents/caregivers was particularly valuable in identifying relevant SEL topics and shaping appropriate didactic strategies.

Limitations and further study

While the participating teacher-researchers demonstrated high intrinsic motivation, valued the topic, and engaged with their own mental health, such favorable conditions cannot be assumed in other school settings. For sensitive topics involving peer dynamics and power imbalances, professional training and mental health literacy are essential. The observed increase in negative emotional beliefs within the intervention group underscores the sensitivity of the topic and highlights the importance of complementing emotional awareness with adequate emotion regulation and coping strategies, particularly during periods of elevated academic stress. Future implementations could allocate more time for emotion regulation and coping strategies and integrate emotional awareness and regulation more specifically within each session (rather than treating them as partially distinct components). Additionally future implementation should also include more opportunities for guided practice, feedback and transfer to every-day academic situation. Furthermore, incorporating booster sessions or follow-up elements may help to consolidate skills over time.

Overall, contextual factors and available resources must be carefully considered when implementing the programme in everyday school life. Future studies should systematically document the application of tools in practice to better reflect ecological validity. Student involvement declined over time, primarily due to competing academic demands such as homework, examinations, and school events. Consequently, none of the students chose to participate in writing the manuscript, and several meetings for reflection on the results were canceled. Reducing student workload may therefore be necessary to enable sustained engagement. While competing academic demands may have contributed to declining participation, it is also possible that some students experienced reduced engagement with the project over time, which may have influenced their motivation to participate in later stages. Similar challenges were observed among parents/caregivers: two parents/caregivers initially involved in programme development later withdrew due to work commitments and were unavailable for the evaluation phase. Greater flexibility was achieved by introducing shorter, spontaneous meetings with the moderator, during which key discussion points were summarized, and specific coordination goals were agreed upon. These were then shared and confirmed in the main meetings. Written feedback, requested in advance, also proved helpful in increasing participation. Future projects could apply these strategies to caregivers' involvement as well.

The participatory evaluation was further limited by the exclusive use of open-response questions, which resulted in brief and infrequent responses, particularly from student researchers. A contextual design combining interviews with quantitative measures would likely have yielded richer data. Younger students reported that some questionnaires were too complex or lengthy. Future studies should adapt materials to the cognitive and linguistic levels of different age groups. Teachers also noted that students' overall reading performance was lower than in previous years, though the reasons for this difference remain unclear. The number and length of measurement instruments should therefore be reconsidered to maintain participant motivation and ensure valid results.

Future projects should secure funding for external moderators and consider implementing activities in more neutral settings to minimize potential power imbalances. Power dynamics between university researchers and teacher- or student-researchers were not systematically examined but may have influenced both the participatory process and study outcomes. For example, they may have affected participants' willingness to express critical perspectives, shaped decision-making processes during intervention development, and contributed to socially desirable responses in self-reported data.

Finally, this evaluation was limited to a pilot study without randomization or sufficient statistical power. Long-term studies with randomized controlled designs and the inclusion of both proximal and distal outcomes (e.g., school climate, academic achievement, mental health, and behavioral measures) are needed. A further limitation is that we did not assess students' responses to individual sessions. Outcomes were measured only at pre-, post-, and follow-up assessments, which limits our ability to examine how students responded to specific components of the intervention. Session-level assessments could have provided valuable insights into potential mechanisms underlying the observed changes, including the decline in social orientation and social initiative relative to the control group.

Authors' Declarations

The authors declare no conflicts of interest. The authors did not receive any funding. All participants were informed about the study and gave their written informed consent in accordance with the Declaration of Helsinki. The local ethics committee approved the study. Data are available on request

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Appendix Table A1

Guidance for Reporting Involvement of Patients and the Public (GRIPP2) Reporting Checklist for Participative Engagement in Research (Staniszewka et al., 2017)

Table 1 GRIPP2 long form		
Section and topic	Item	Reported on page No
Section 1: Abstract of paper		
1a: Aim	Report the aim of the study	p.1
1b: Methods	Describe the methods used by which patients and the public were involved	p.1
1c: Results	Report the impacts and outcomes of PPI in the study	p.1
1d: Conclusions	Summarise the main conclusions of the study	p.1
1e: Keywords	Include PPI, "patient and public involvement," or alternative terms as keywords	p.1
Section 2: Background to paper		
2a: Definition	Report the definition of PPI used in the study and how it links to comparable studies	p.3-4
2b: Theoretical underpinnings	Report the theoretical rationale and any theoretical influences relating to PPI in the study	p.3-4
2c: Concepts and theory development	Report any conceptual models or influences used in the study	p.4
Section 3: Aims of paper		
3: Aim	Report the aim of the study	p.4-5
Section 4: Methods of paper		
4a: Design	Provide a clear description of methods by which patients and the public were involved	p.4
4b: People involved	Provide a description of patients, carers, and the public involved with the PPI activity in the study	p.23
4c: Stages of involvement	Report on how PPI is used at different stages of the study	p.23
4d: Level or nature of involvement	Report the level or nature of PPI used at various stages of the study	p.6
Section 5: Capture or measurement of PPI impact		
5a: Qualitative evidence of impact	If applicable, report the methods used to qualitatively explore the impact of PPI in the study	p.6
5b: Quantitative evidence of impact	If applicable, report the methods used to quantitatively measure or assess the impact of PPI	-
5c: Robustness of measure	If applicable, report the rigour of the method used to capture or measure the impact of PPI	-
Section 6: Economic assessment		
6: Economic assessment	If applicable, report the method used for an economic assessment of PPI	-
Section 7: Study results		
7a: Outcomes of PPI	Report the results of PPI in the study, including both positive and negative outcomes	p.24
7b: Impacts of PPI	Report the positive and negative impacts that PPI has had on the research, the individuals involved (including patients and researchers), and wider impacts	p.11
7c: Context of PPI	Report the influence of any contextual factors that enabled or hindered the process or impact of PPI	p.24
7d: Process of PPI	Report the influence of any process factors, that enabled or hindered the impact of PPI	p.7
7e: Theory development	Report any conceptual or theoretical development in PPI that have emerged	p.7
7eii: Theory development	Report testing of theoretical models, if any	p.7
7f: Measurement	If applicable, report all aspects of instrument development and testing (eg, validity, reliability, feasibility, acceptability, responsiveness, interpretability, appropriateness, precision)	p.8-10
7g: Economic assessment	Report any information on the costs or benefit of PPI	-
Section 8: Discussion and conclusions		
8a: Outcomes	Comment on how PPI influenced the study overall. Describe positive and negative effects	p.11
8b: Impacts	Comment on the different impacts of PPI identified in this study and how they contribute to new knowledge	p.11-12
8c: Definition	Comment on the definition of PPI used (reported in the Background section) and whether or not you would suggest any changes	p.12
8d: Theoretical underpinnings	Comment on any way your study adds to the theoretical development of PPI	p.11-12
8e: Context	Comment on how context factors influenced PPI in the study	p.14-16
8f: Process	Comment on how process factors influenced PPI in the study	p.14-16
8g: Measurement and capture of PPI impact	If applicable, comment on how well PPI impact was evaluated or measured in the study	p.14-16
8h: Economic assessment	If applicable, discuss any aspects of the economic cost or benefit of PPI, particularly any suggestions for future economic modelling.	-
8i: Reflections/critical perspective	Comment critically on the study, reflecting on the things that went well and those that did not, so that others can learn from this study	p.14-16

Table A2*Intervention Mapping for the development of an intervention to enhance social and emotional learning skills*

Intervention Mapping Steps		Participatory Action Research Process (Tasks)	Sessions	Participants*
1	Needs Assessment	<ul style="list-style-type: none"> - Introduction of the project by the lead teacher researcher - Getting to know each other - Needs assessment of social and emotional challenges (Session 1) using affinity mapping - Clarification of questions - Commitment to the project from all participants - Identification of the need for scientific input on social and emotional competence as well as on existing prevention programmes 	Session 1	S, T, P, U
2	Defining Programme Outcome and Objectives	<ul style="list-style-type: none"> - Scientific/Practical input by two experts providing school-based prevention programmes to enhance emotional competence 	Session 2	S, T, P, U
		<ul style="list-style-type: none"> - Scientific/Practical input by university researchers on emotional and social competence, risk and protective factors, outcome of prevention measures targeting mental health, and their service-learning programme to enhance emotional competence - Scientific/Practical input on social emotional learning by the lead teacher researcher 	Session 3	S, T, P, U
		<ul style="list-style-type: none"> - Assessment of programme aims, implementation facilitators and barriers by all participants - Identification of shared aims and potential conflicts - Agreement on programme outcomes and objectives 		
3	Theory Based Intervention Methods and Practical Implications	<ul style="list-style-type: none"> - Input on research designs by university researchers - Translating of methods into practical actions - Shaping the intervention structure and themes based on the needs assessment 	Session 4	S, T, P, U
4	Programme Development	<ul style="list-style-type: none"> - Development of intervention components, materials and activities by a teacher's task force - Feedback loops with student researchers and university researchers - Graphic design of materials 	Session 5- Session 14	S, T
5	Adoption and Implementation Planning	<ul style="list-style-type: none"> - Presentation of the final programme - Development of strategies for programme adoption - Development of a plan for organizational support, rollout procedures and implementation of the prevention measure 	Session 15	S, T, P, U
6	Evaluation Planning	<ul style="list-style-type: none"> - Teachers training for programme implementation by lead teacher researcher 	Session 16-19	S, T, U
		<ul style="list-style-type: none"> - Development of a study design by university researcher 		
		<ul style="list-style-type: none"> - Feedback loops with student researchers and teacher researchers - Evaluation of the programmes impact with a pre, post and follow up measurement point and a control group 		
		<ul style="list-style-type: none"> - Summary of the results presented by university researchers 		

Note: S = Student Researchers (n= 3), T = Teacher Researchers (n=10), U = University Researchers (n=2), P = Parent/caregivers-Researchers (2)

Table A3*Assessment of implementation fidelity (teachers' perspective, n= 4 teachers)*

Items	M (SD)
12. The content of the SEL intervention followed a clear structure.	6.3 (1.0)
13. The objectives of the SEL intervention were clearly defined.	6.3 (1.0)
14. Potential challenges in implementing the SEL intervention were considered.	4.3 (1.7)
15. The conditions created for implementing the SEL intervention were appropriate.	3.8 (1.9)
16. The achievement of the objectives of the SEL intervention was evaluated (e.g., using questionnaires).	3.8 (2.4)
17. The strategy for implementing and delivering the SEL intervention was coherent.	4.8 (2.1)
18. Initial plans and strategies for implementing the SEL intervention were reviewed and, if necessary, adapted.	6.0 (1.4)
19. When teaching emotional and social skills using the SEL intervention, I adhered to the implementation guidelines.	5.0 (1.6)
20. I participated in sessions that provided training on the content and implementation of the SEL intervention.	6.3 (0.5)
21. I felt sufficiently prepared to implement the SEL intervention in the classroom.	5.0 (0.8)
22. The SEL intervention were well received by the students.	5.0 (1.6)
23. In my view, the students benefited from the SEL intervention.	5.3 (1.7)
24. I felt sufficiently competent when implementing the SEL intervention	4.3 (1.0)
25. I had sufficient time in my daily school routine to implement the SEL intervention	2.8 (1.5)
26. I had sufficient time in my daily school routine to familiarize myself with the implementation of the SEL intervention.	2.3 (0.5)
27. I consider the topic of emotional and social skills to be important.	7.0 (0.0)
28. I have already attended professional development training on mental health.	4.3 (2.2)
29. The SEL interventions are an asset to our school.	6.3 (1.0)
30. The students understood the content of the SEL intervention well.	4.0 (2.4)
31. Teachers are well suited to implement the SEL intervention.	5.5 (0.6)
32. I would recommend that colleagues implement SEL intervention	5.8 (1.5)
33. I consider it likely that the SEL intervention will become an integral part of our school and will be implemented in other classes in the long term.	6.0 (1.4)
Note: <i>M</i> = Mean, <i>SD</i> = Standard Deviation	

Table A4

Description of the intervention's tools content

	Tool	SEL Competency	Objective	Interventions for students	Information sheet for teachers
1	Smartie Tool	Self-Management	Students set specific and achievable personal goals.	<ul style="list-style-type: none"> - Presentation of a “SMART poster” illustrating SMART goals (specific, measurable, attractive/achievable, realistic, time-bound) - Guidance on the development of SMART goals in the classroom, including the creation of weekly plans and individual learning plans - Reflection with students on the goals that have been formulated - Interviews with parents to support the agreement on and reflection of goals and goal attainment 	<ul style="list-style-type: none"> - Information on the development of self-management and the need for support in goal setting within the classroom - Information on strengthening students’ self-efficacy and fostering intrinsic motivation in the classroom - Modeling by the teacher, including the presentation of their own SMART goals (e.g., related to the instructional concept)
2	Growth Tool	Self-Management	<ul style="list-style-type: none"> - Students understand that abilities develop through effort and practice. 	-	-
3	Mountaineer Tool	Self-Management	<ul style="list-style-type: none"> - Students strengthen perseverance when facing challenges. 	<ul style="list-style-type: none"> - Presentation of the four components of perseverance (<i>interest, practice, purpose, hope</i>) based on Angela Duckworth and Kelly Carson (2023), including a brief knowledge check. - Development of examples in which individuals demonstrated perseverance. 	<ul style="list-style-type: none"> - Information on student motivation and guidance on strategies to enhance motivation (e.g., fostering interest, setting goals, instilling hope, providing reinforcement, allowing

				<ul style="list-style-type: none"> - Drawing a mountain landscape representing goal pursuit, with the goal labeled at the summit. The four mountains are labeled with the four components of perseverance (<i>interest, practice, purpose, hope</i>). Students assign their responses to the following questions: <ul style="list-style-type: none"> - What long-term goal do you have? - What interests you about this goal? - What should you practice to achieve this goal? - What short-term intention do you have? - What hopes encourage you not to give up? - Role-play based on thematic case vignettes. - Partner activity with brainstorming of ideas for perseverance in the domains of nature, learning, and friendship. - Description of an inner monologue. - Cognitive intervention (“the magic of <i>not yet</i>”): reframing self-defeating self-evaluations into statements that support goal attainment. 	time for practice, and visualizing successes).
4	Superhero Tool	Self-Awareness	Students identify and reflect on their personal strengths.	<ul style="list-style-type: none"> - Create a poster illustrating one’s own strengths. - Identify the strengths of a person based on a video example. - Draw a “superhero” representing one’s own strengths. - Name one personal strength, find a classmate who is believed to share this strength, inform the classmate, and present the strength in front of 	- Information on personal strengths and guidance for critically reflecting on one’s own strengths and role-model behavior.

				<p>the class while the class guesses which strength is being described.</p> <ul style="list-style-type: none"> - Reflection questions (e.g., “Was it easy for you to name one of your strengths?”). - Pair activity: identifying strengths of the partner. - Pair activity: explaining when and how one recently used one’s own strengths 	
5	Athlete Tool	Self-Management	Students learn to interpret mistakes as opportunities for learning.	<ul style="list-style-type: none"> - Creation of a mind map on the topic of resilience - Identification of resilience factors using a character from literature - Development of students’ own resilience factors presented on a poster - Strengthening emotional vocabulary - Use of explanatory videos on resilience - Worksheet: „Mistakes are helpful“ 	<ul style="list-style-type: none"> - Information on resilience in children and adolescents (manifestations of resilience, coping strategies, risk factors, and protective factors) - Information on the important role of teachers in providing support and being approachable for children and adolescents in challenging situations - Introduction to the core components (“pillars”) of resilience - Examples of how teachers can serve as role models (e.g., fostering a positive error culture in the classroom)
6	Hammock Tool	Self-Management	Students learn strategies for self-care and maintaining motivation.	<ul style="list-style-type: none"> - Instructions for mediation. - Sensory awareness exercise. - Breathing exercise; body scan. - Mindfulness exercise (mandala activity). 	<ul style="list-style-type: none"> - Information on the importance of breaks and examples of effective break management.

				<ul style="list-style-type: none"> - Body-oriented mindfulness exercise. - Movement breaks. - Group reflection on strategies for self-care. 	
7	Magnifier Tool	Self-Awareness	<ul style="list-style-type: none"> - Students recognize and express their current emotional state. 	<ul style="list-style-type: none"> - Worksheets on “What makes me happy,” “What does joy feel like?,” and “Where do I feel joy in my body?”; documenting five positive moments in a drawing; strengthening emotional vocabulary; exercises on recognizing emotions in others - Introduction of a feelings poster and a feelings wheel - Use of emotion cards - Emotion quiz and emotion-based games - Strategies for regulating anger - Information on basic needs and exercises for identifying and expressing needs 	<ul style="list-style-type: none"> - Information on emotions and emotion regulation in childhood and adolescence - Information on the teacher’s role as a model in dealing with emotions and communicating about emotions
8	Pet Tool	Social Awareness	Students reflect on caring for themselves and others.	<ul style="list-style-type: none"> - Presentation of situations in which a person needs support, followed by reflection on possible ways of providing support. - Empathic interview. - Pair activity: discussion of situations and identification of empathic and non-empathic responses. - Role plays based on situations from everyday school life 	<ul style="list-style-type: none"> - Information on the relevance of empathy in interactions with students; objectives of the tool; reflection on the teacher’s role as a role model; examples of situations in which it is important for teachers to demonstrate empathy.
9	Giraffe-Language Tool	Relationship Skills (Students practice respectful and non-violent communication.	<ul style="list-style-type: none"> - Explanatory video on nonviolent communication (“giraffe language” and “wolf language”). - Knowledge check activity. 	<ul style="list-style-type: none"> - Information on the relevance of nonviolent communication in interactions with students; objectives of the tool;

				<ul style="list-style-type: none"> - Explanatory video on the four steps of giraffe language. - Knowledge check activity. - Case example for applying giraffe language. - Introduction to the model of nonviolent communication according to Marshall B. Rosenberg. - Visualization of the four steps as a poster in the classroom. - Sharing personal conflict situations from the classroom. - Visual representation of giraffe language. - Formulating requests for the class council using giraffe language. 	reflection on the teacher's role as a role model; examples of nonviolent communication in everyday school contexts.
10	First-Aid Tool	Responsible Decision-Making	Students learn when and how to seek help in challenging situations.	<ul style="list-style-type: none"> - Presentation and distribution of contact information for support services in case of personal difficulties - Worksheets on emotions (sorting feelings), thoughts (sorting thoughts), breathing exercises, body-based exercises, and self-affirmations - Development of an individual resource list - Development of a safety plan for psychological crises 	<ul style="list-style-type: none"> - Information on personal resources and the importance of students identifying their own internal and external resources - Learning through modeling (e.g., teachers communicating their own stressors during lessons and demonstrating coping strategies) - Emphasis on strengths in performance feedback (written and oral)
11	Power Tool	Responsible Decision-Making	Students reflect on personal responsibility for their actions.	<ul style="list-style-type: none"> - Worksheet with examples for reflecting on action strategies - Classroom reflection on how students successfully solved tasks 	<ul style="list-style-type: none"> - Information on self-efficacy - Learning through modeling (e.g., assigning tasks in

				<ul style="list-style-type: none"> - Reflection with students on situations in which they took responsibility for their actions and positively influenced outcomes - Documentation of students' experiences of self-efficacy during task completion 	ways that enable student success and providing differentiated tasks)
12	Team Tool	Relationship Skills	Students learn the benefits of combining strengths in teamwork.	<ul style="list-style-type: none"> - Playful activities to promote cohesion within the class - Development or selection of a class motto or phrase that reflects the class identity 	- Information on the importance of teamwork and class cohesion

Figure A1

Social Emotional Learning Tools



