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Promoting inclusion of peers with special educational needs: effects of a curriculum-based diversity awareness program

Sergej Wüthrich · Caroline Sahli Lozano · Matthias Wicki

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Abstract Students with special educational needs (SEN) often face rejection from peers. Research suggests that intervention programs can enhance students' attitudes and social participation of peers with SEN. However, many teachers lack the resources or time to implement comprehensive programs. The extent to what easy-to-implement teaching units have positive effects is less clear. Based on the Theory of Planned Behavior, this study assessed the effect of a series of classroom lessons based on the teaching resource *Prinzip Vielfalt* on students' attitudes, subjective norms, perceived behavioral control (PBC), and their intentions to include peers with SEN.

In a cluster-controlled trial, 51 elementary school classes (3rd–6th grade) were assigned to either the experimental or waiting-control group based on the timing of teachers' registration for a continuing education course. The experimental group consisted of 34 classes (652 students), where teachers implemented a standardized 12-lesson plan over a 6-week period, while the control group continued with their regular curriculum. Data were collected at three points: pre-test, post-test, and follow-up three months later. Student self-report measures were analyzed using mixed-effects and mediation models in R.

Analyses indicated no significant long-term effects for PBC or inclusion intentions. However, attitudes and subjective norms toward peers with disabilities improved significantly. Further, mediation analyses revealed significant indirect effects of attitudes and subjective norms on inclusion intentions. Thus, while the intervention did not directly influence intentions, it had a positive effect on attitudes and subjective norms, which could enhance inclusive behavior over time. Thus, carefully constructed, accessible, and easy-to-implement teaching resources such as *Prinzip Vielfalt* demonstrate promising effects on inclusive peer behavior.

✉ Sergej Wüthrich · Caroline Sahli Lozano · Matthias Wicki
Bern University of Teacher Edcuation, Fabrikstraße 2a, 3012 Bern, Switzerland
E-Mail: sergej.wuethrich@phbern.ch

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Förderung der Inklusion von Peers mit sonderpädagogischem Förderbedarf: Auswirkungen eines unterrichtsbasierten Programms zur Sensibilisierung für Vielfalt

Zusammenfassung Schüler:innen mit sonderpädagogischem Förderbedarf (SFB) erfahren häufig Ablehnung durch Gleichaltrige. Forschungsergebnisse zeigen, dass Interventionsprogramme die Einstellungen von Peers und die soziale Teilhabe von Schüler:innen mit SFB verbessern können. Vielen Lehrkräften fehlen jedoch die Ressourcen oder die Zeit, umfassende Programme umzusetzen. Inwieweit niederschwellige, einfach zu implementierende Unterrichtseinheiten positive Effekte haben, ist weniger klar. Ausgehend von der Theorie des geplanten Verhaltens sollen die Auswirkungen von Unterricht basierend auf dem Lehrmaterial *Prinzip Vielfalt* auf Einstellungen, subjektive Normen, Selbstwirksamkeit, und inklusive Absichten von Schüler:innen gegenüber Peers mit SFB untersucht werden. In einer Cluster-kontrollierten Studie wurden 51 Grundschulklassen der (3. bis 6. Jahrgangsstufe) entweder der Experimentalgruppe oder der Wartekontrollgruppe zugeordnet, basierend auf dem Zeitpunkt der Anmeldung der Lehrkräfte für einen Weiterbildungskurs. Die Experimentalgruppe bestand aus 34 Klassen (652 Schüler:innen), in denen die Lehrkräfte über einen Zeitraum von 6 Wochen einen standardisierten Unterrichtsplan von 12 Lektionen umsetzten, während die Kontrollgruppe mit dem regulären Lehrplan fortfuhr. Die Datenerhebung erfolgte zu drei Zeitpunkten: Prä-Test, Post-Test und Follow-up nach drei Monaten. Die Selbsteinschätzungen der Schüler wurden mittels Mixed-Effects- und Mediationsmodellen in R analysiert.

Die Analysen zeigten keine signifikanten Langzeiteffekte für die Selbstwirksamkeit oder Inklusionsabsichten. Allerdings verbesserten sich die Einstellungen und subjektiven Normen gegenüber Peers mit Behinderungen signifikant. Weiterhin zeigten Mediationsanalysen signifikante indirekte Effekte von Einstellungen und subjektiven Normen auf Inklusionsabsichten. Obwohl die Intervention die Absichten nicht direkt beeinflusste, wirkte sie sich positiv auf Einstellungen und subjektive Normen aus, was langfristig inklusives Verhalten fördern könnte. Somit zeigen sorgfältig gestaltete, niederschwellige und leicht zu implementierende Lehrmaterialien wie *Prinzip Vielfalt* vielversprechende Effekte auf inklusives Peerverhalten.

1 Introduction

Inclusive education's fundamental principle is to enhance every student's academic, social, and personal growth to their fullest potential within the regular classroom environment. This approach encourages social development by enabling students with special educational needs (SEN) to learn from and form friendships with typically developing peers. However, research consistently highlights that this is not always the case, as included students with SEN often lack social participation. Contextual

factors, such as norms and attitudes of peers and teachers, play a significant role (Mikami and Normand 2015). This study aims to evaluate the effects of accessible, easy-to-implement curriculum-based diversity-awareness materials on essential predictors of peer students' inclusive behavior.

1.1 Social participation challenges in inclusive education settings

Students with SEN, especially students with learning or emotional/behavioral disabilities, tend to be less popular, have fewer friendships, and often feel socially less integrated compared to their peers without SEN (Pijl and Frostad 2010; Wüthrich et al. 2022). In a study by Huber et al. (2022) in 58 elementary school classes in Germany, more than 50% of the students with severe learning or behavioral disabilities were rejected by their peers, as indicated by their peers sociometric seating choices. Although inclusive education offers various benefits, this illustrates that inclusive education does not automatically lead to social inclusion, underscoring the need for targeted efforts to improve social outcomes for students with SEN.

1.2 Understanding and improving peer relationships

Exclusion of students with SEN stems not only from individual factors, such as lower social competencies, but also from contextual factors (e.g., Mikami and Normand 2015).

Negative attitudes and prejudice One reason for excluding peers with SEN relates to perceived differences in ability, behavior, and appearance (Nowicki et al. 2014). Social Identity Theory (Tajfel and Turner 1979) suggests that categorization into social groups lead to ingroup favoritism and outgroup discrimination, potentially leading to negative attitudes and prejudice toward students with SEN. While inclusive education provides opportunities for positive intergroup contact, optimal conditions for reducing prejudice—such as equal status, common goals, cooperation, and authority support (Allport 1954; Pettigrew 1998)—are not always present. Students with SEN may still experience separation, marginalization, or stigmatization in regular classroom settings (Niemi and Vehkakoski 2023). Teachers play an important role in promoting inclusive classroom environment with a common identity, where everyone receives equal participation rights and positive recognition.

Norms and social context Children's decisions about inclusion evolve with age, balancing moral concepts about fairness and equality with developing understanding of situational affordances and group norms (Gasser et al. 2014; Killen and Smetana 2015). As children mature, they gradually consider situational affordances and group norms when deciding whether including or excluding other peers, such as a peer's ability to contribute to group goals in academic or athletic contexts. These decisions are moderated by classroom norms, with competitive environments more likely to foster exclusion (Gasser et al. 2014, 2017). Teacher-student interactions, such as negative public feedback to students with SEN, and parent attitudes also provide

normative information and significantly influence students' acceptance of their peers with SEN (Huber et al. 2018; Mikami et al. 2012; Roberts and Lindsell 1997).

Confidence in contact Fostering inclusive peer behavior requires developing what Turner and Cameron (2016) term "confidence in contact"—a state where students possess the specific beliefs, skills, and experiences necessary for successful interactions with "outgroup" peers. For interactions with students who have learning or behavioral difficulties, this involves overcoming initial fears and prejudices, recognizing commonalities despite differences in cognitive ability or behavior, and developing and applying social-emotional skills to initiate and maintain positive contacts and friendships. These skills are particularly crucial as peers may need to model and support appropriate social-emotional behaviors for students with learning or behavioral difficulties (English et al. 1997).

Accordingly, efforts to promote inclusive peer behavior ideally address multiple aspects, targeting not only peer attitudes, but also subjective norms and social efficacy. Here, the Theory of Planned Behavior (TPB; Ajzen 1991) provides a useful framework for understanding inclusive peer behavior toward students with SEN.

1.3 Predicting inclusive peer behavior: the theory of planned behavior

TPB posits that behavior is best predicted by behavioral intentions, which in turn is predicted by attitudes, subjective norms, and perceived behavioral control. The TPB has been successfully applied to predict inclusive peer behavior in different educational contexts (e.g., Freitag and Dunsmuir 2015; Roberts and Lindsell 1997).

Attitudes Attitudes refer to evaluations of performing a specific behavior, based on affective and cognitive aspects. Regarding students with SEN, most studies focus on attitudes toward the group rather than inclusive behaviors. Attitudes toward peers with SEN are generally more negative compared to peers without SEN, and vary depending on the type of SEN (e.g., Schwab 2015). Interventions to improve student attitudes have proven successful under various conditions (Armstrong et al. 2017; Chae et al. 2019; Lindsay and Edwards 2013; McManus et al. 2021).

Subjective norms Subjective norms represent perceived social pressure regarding behavior, including students' perceptions of teachers, parents, or peers' opinions on including peers with SEN. Students with SEN tend to be better accepted in diverse classes with inclusive peer relationship norms (Huber et al. 2022; Wüthrich et al. 2022). Norms significantly predict students' intentions to include peers with SEN (Freitag and Dunsmuir 2015; Gasser et al. 2018; Roberts and Lindsell 1997).

Perceived behavioral control Perceived Behavioral Control (PBC), often equated with self-efficacy, refers to students' perceived ability to interact effectively with peers with SEN. Intervention programs promoting social skills and friendship building to all students have shown promise (Pollak et al. 2023), though such universal programs are rarely evaluated for their effects in promoting inclusion of students with SEN. Research demonstrates strong relationships between perceived efficacy

in interacting with peers with SEN and inclusion intentions (Freitag and Dunsmuir 2015; Roberts and Smith 1999).

Therefore, according to the TPB, students are more likely to engage in inclusive behavior if they have positive feelings and beliefs toward their peers with SEN, believe that their peer group, teachers and parents support such behavior, and feel confident to initiate and maintain positive contact with peers with SEN. While the TPB provides a structured framework for promoting and investigating inclusive peer behavior, to the authors' knowledge, no studies have effectively used the TPB to guide intervention design or as a comprehensive intervention model in this context.

1.4 The need for (effective) easy-to-implement interventions

There is strong evidence that carefully designed, curriculum-based interventions improve students' attitudes toward and social participation of peers with SEN (Garrote et al. 2017; McManus et al. 2021). An overview of some well-known interventions to promote social participation and a discussion of their effects can be found in Hassani et al. (2020). Most promising approaches utilize long-term and multicomponent programs that involve universal (e.g., cooperative learning) and selective (e.g., social skill training for students with SEN) components, combined with regular teacher counseling and collaboration with parents (e.g., García Bacete et al. 2019). However, such programs are often time- and resource-intensive. Easy-to-implement programs are crucial as they are more likely to be adopted and implemented with fidelity, are cost-effective and sustainable over time, allow for wider reach across diverse settings, are more easily integrated into regular teaching practices, and adapted to different contexts (Durlak and DuPre 2008; Glasgow et al. 1999; Han and Weiss 2005). These factors are particularly important in educational settings with varying resources and expertise.

Less resource-intensive interventions that integrate activities into regular classroom routines, utilize active engagement strategies, encourage cooperative group work, and employ various media formats like stories, videos, and interactive activities, have been shown to be effective as well (Chae et al. 2019; Lindsay and Edwards 2013). However, many intervention studies in this field suffer from methodological limitations, including a lack of appropriate control groups or randomization, small sample sizes, potential social desirable respondent biases, and absence of long-term follow-up assessments (Lindsay and Edwards 2013; McManus et al. 2021). Such methodological issues might contribute to unusually large effect sizes found in some studies (see Chae et al. 2019), while some cluster randomized controlled studies with large samples and assessment of longer-term effects found non-significant intervention effects when trying to improve peer disability attitudes (e.g., Godeau et al. 2010), highlighting the importance of rigorous methodology in this field.

1.5 Aim of the current study

The current study aimed to evaluate the effects of accessible, easy-to-implement curriculum-based diversity-awareness materials based on the teaching resource *Prinzip Vielfalt* ("Diversity Principle") on students' willingness to interact with peers with

SEN. While the intervention materials are not restricted to the topic of special educational needs but address human diversity in general, our research specifically examines their effects on attitudes and behaviors towards students with SEN. The teaching units are theoretically driven, utilizing the TPB and targeting the core aspects hypothesized to foster inclusive peer behavior. Building upon previous research (Wüthrich et al. 2023) this study applies a cluster randomized controlled design to assesses long-term changes of students' attitudes, subjective norms, PCB, and inclusion intentions to evaluate the nature and longevity of effects of the intervention on behavior-relevant variables.

2 Methods

2.1 Sample

A continuing education course, based on the teaching resource *Prinzip Vielfalt*, was offered to elementary school teachers at the Bern University of Teacher Education (Switzerland). The course started in autumn 2020 or spring 2021 and entailed a 4-hour introduction, a 6-week practical application of lesson plans, and a 2-hour reflection session. Course announcement mentioned a scientific study with teacher and student surveys as being part of the course, though participation was voluntary and had no impact on course benefits, which included a certificate of course completion. Out of 63 teachers who registered, 54 agreed to participate in the study. Legal guardians of students in these classes were informed about the study, and consent to participate was obtained for 1003 of 1095 students. The 54 teachers were allocated to groups based on course registration: 37 teachers who registered for the autumn course were allocated to the intervention group, and 17 who registered for the spring course were allocated to the waiting control group. The group allocation and research design were not communicated to teachers. After baseline measurement, three teachers/classes dropped out, resulting in a final analytical sample of 51 classes (34 experimental, 17 control), consisting of $N = 958$ students ($n_{exp} = 652$ students, $n_{control} = 306$ students; mean age $M = 10.7$, $SD = 1.20$ years; 53.1% male).

2.2 Intervention

The intervention was based on existing teaching material, called *Prinzip Vielfalt* (Meyer et al. 2015). The teaching resource consists of a printed booklet, a web platform (www.prinzip-vielfalt.ch) and a game app (*The Unstoppables*), all freely available. *Prinzip Vielfalt* is theoretically driven, using elements hypothesized to positively influence beliefs, feelings, norms, skills, and behavior (Ajzen 1991; Eagly and Chaiken 1993) and promoting notions of common humanity and inter-group similarities in feelings, needs and interests (Allport 1954). *Prinzip Vielfalt* is designed as self-explanatory teaching material. To test the effects of the teaching materials, an intervention with 12 standardized lessons was created, containing activities such as reflecting about "inner images" about other groups of people, cooperatively solving tasks, and using role-play to practice initiating contact with other peers (see Ap-

pendix A for more details). The class teachers covered these 12 lessons for 6 weeks, with two 45-minute lesson per week.

2.3 Procedure

Students were surveyed in class three times using pen-and-paper questionnaires: pre-test (4–6 weeks before the intervention), post-test (2 weeks after the intervention), and follow-up (3 months after the intervention). The pre-test and follow-up included two vignettes of children with SEN with subsequent measures of attitudes, subjective norms, PBC, and inclusion intentions regarding the child. These sessions were administered by two research assistants who read aloud the questions and provided support. The shorter post-test survey, including only one vignette and fewer scales, was administered by teachers themselves. This approach was chosen to reduce costs and redundancy, as long-term changes were of higher interest than short-term effects. Research assistants were blinded regarding experimental and control conditions. Further, it was strictly ensured that no connection was made to the intervention when introducing the measurements to the students.

Pre-test, post-test, and follow-up were administered to the experimental group (using the intervention) and the control group (starting the intervention only after the follow-up test) in parallel at the same time points.

2.4 Measures

Constructs of interest in the students' questionnaire at pre-, post-, and follow-up test were attitudes, subjective norm, PBC, and inclusion intentions in relation to two child vignettes. As previously mentioned, the post-test included only the learning disability vignette, and the subjective norm scale was excluded here. The exact vignettes/scales used can be found in Appendix D.

Child vignettes Two children (gender-neutral: "Alex" and "Kim") were presented to the students, having either a learning disability [LD] or emotional/behavioral disability [EBD]. Descriptions included five statements each (e.g., "Alex has difficulties with reading, arithmetic, and writing", "Kim finds it difficult to sit still and concentrate"). After each vignette, students answered questions related to the child. The two vignettes were chosen because students with learning or emotional/behavioral disabilities tend to be especially prone to social exclusion (e.g., Schwab 2015).

Attitudes The Adjective Checklist (ACL) by Siperstein (1980) consists of a mixed list of 17 positive and 17 negative adjectives from which students could choose as many as they thought would fit the presented child. The dependent variables were the number of positive (# pos.) and negative (# neg.) adjectives selected.

Subjective norm Subjective norm was assessed with three statements (e.g., "My family and friends would be happy if I played with children like Alex") using a five-point Likert scale. Scale reliability across measurements was 0.79–0.86 (LD) and 0.90–0.93 (EBD).

Perceived behavioral control PBC was assessed with three statements (e.g., "It would be easy for me to talk to children like Alex") using a five-point Likert scale. Scale reliability across measurements was 0.79–0.85 (LD) and 0.85–0.86 (EBD).

Intentions to include Inclusion intentions were assessed with three statements (e.g., "I would choose Alex as a partner for a group project") using a five-point Likert scale. Scale reliability across measurements was 0.87–0.89 (LD) and 0.90–0.91 (EBD).

Implementation fidelity check Implementation fidelity was self-reported via an online questionnaire for teachers 2 weeks after the intervention. Teachers in the experimental group were asked how many of the 12 lessons they had completed; completing at least nine lessons was considered closely following the lesson plan. Control group teachers were asked to report if they had covered intervention relevant content during the waiting time (e.g., disability- or diversity-related topics).

2.5 Analysis strategy

Change scores were assessed using multilevel mixed-effects models in R, using the lme4 package (D. Bates et al. 2015).

Three-level mixed-effect models Three-level mixed-effect models (L1: measurements, L2: students, L3: school classes) were applied to constructs measured at all three time points, i.e., restricted to the LD vignette. Random intercepts were specified for class- and student-ID, and random slopes were specified for the effect of measurement time (post-test and follow-up vs. baseline) across classes (Aguinis et al. 2013).

Two-level mixed-effect models Two-level mixed-effect models (L1: students, L2: school classes) were applied for constructs measured at only two time points (social norm for LD, and all constructs for EBD). Random intercepts were specified for class-ID.

Mediation analysis Based on the TPB, multilevel mediation analyses were performed to see whether significant changes in attitudes, subjective norm or PBC mediated changes in inclusion intentions at follow-up. The models were estimated using the "lavaan" package (Rosseel 2012) and Full Information Maximum Likelihood (FIML) estimation.

Missing data With a minimum of 79.1% of the theoretical total sample participating in each measurement time point, participation rate was considered high, and drop-out mechanisms were assumed to be unsystematic and unrelated to the intervention. Therefore, no special missing data treatment was considered.

Sensitivity analysis Additional analyses considering the implementation fidelity were performed by excluding classes of a) the teachers of the experimental group

who only partially adhered to the implementation and b) the teachers from the waiting-control-group covering intervention relevant content during the waiting period.

3 Results

3.1 Descriptive results

The pre-test assessment showed no significant differences across demographic or dependent variables (all $p > 0.11$, Table 1). The fidelity check indicated that the majority of teachers from the experimental group followed the lesson plan closely and implemented at least 9 of the 12 lessons (31 of 34 teachers; 91%). Meanwhile, many teachers from the control group mentioned the topic of inclusion/promoted inclusive peer behavior/used similar learning content during more than 6 lessons (5 of 17 teachers; 29%).

Table 1 Descriptive results

	Pre-test		Post-test		Follow-up	
	Exp	Control	Exp	Control	Exp	Control
Parameter	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**
Age	10.8 (1.15)	10.7 (1.29)	–	–	–	–
Sex: Male	53%	53%	–	–	–	–
LD						
Attitudes (# pos.)	6.07 (3.81)	6.58 (4.27)	7.34 (4.06)	7.33 (4.42)	7.51 (3.93)	7.20 (4.14)
Attitudes (# neg.)	3.07 (2.69)	2.88 (2.86)	3.00 (2.88)	3.12 (2.97)	2.98 (2.74)	3.09 (3.19)
Social Norms	4.25 (0.88)	4.11 (1.00)	–	–	4.28 (0.91)	4.05 (1.09)
PBC	3.80 (0.89)	3.80 (1.03)	3.75 (0.97)	3.82 (1.05)	3.78 (0.95)	3.68 (1.10)
Intentions	3.42 (1.05)	3.53 (1.14)	3.50 (1.03)	3.55 (1.16)	3.44 (1.07)	0.343 (1.17)
EBD						
Attitudes (# pos.)	4.95 (4.26)	5.18 (4.60)	–	–	6.06 (4.59)	5.26 (4.65)
Attitudes (# neg.)	3.21 (2.89)	3.47 (3.09)	–	–	3.54 (3.22)	3.67 (3.36)
Social Norms	3.82 (1.12)	3.64 (1.18)	–	–	3.87 (1.08)	3.50 (1.26)
PBC	3.48 (1.03)	3.40 (1.10)	–	–	3.50 (1.01)	3.33 (1.14)
Intentions	3.17 (1.11)	3.22 (1.20)	–	–	3.22 (1.11)	3.14 (1.23)

LD arning disability, *EBD* Emotional/behavioral disability, *PBC* Perceived behavioral control

3.2 Effects of the intervention

Multilevel mixed-effects models were run to assess changes in the outcome variables of attitudes (positive and negative adjectives), subjective norms, PBC, and inclusion intentions for the two child vignettes.

Three-level mixed models Random-intercept null-models indicated that for the LD vignette, between 42.4% (attitudes: # pos.) and 55.0% (intentions) of the variance was explained by between-student differences, while between 2.4% (attitudes: # neg.) and 7.8% (attitudes: # pos.) of the variance was explained by between-class differences. There was significant random slope variance of the effect of measurement time across classes in all 3-level mixed models as indicated by likelihood-ratio tests. Significant interactions of intervention group with measurement time were only found for positive adjectives (see Table 2). Here, the intervention group selected significantly more positive words (0.89, $CI_{95\%}$ [0.19,1.59]) compared to the control group at follow-up. This effect explained 22.4% of the random slope variance.

Two-level mixed models Random-intercept null-models indicated that between 2.4% (attitudes: # pos. for EBD) and 7.4% of the variance (subjective norms for LD) was explained by between-class differences. Adjusted for baseline (pre-test), for the EBD vignette, significant main effects for the intervention group were found for attitudes (# pos.) and subjective norms (see Table 3). The intervention group selected significantly more positive words (1.04, $CI_{95\%}$ [0.47, 1.61]) and perceived significantly more positive subjective norms (0.25, $CI_{95\%}$ [0.07, 0.44]) compared to the control group at follow-up. These intervention effects explained 1.1% (attitudes: # pos.) and 1.3% (subjective norms) of the variance. In contrast, for the LD vignette, no significant effect for subjective norms emerged.

Mediation analyses Two separate mediation analyses for the effects of the intervention on inclusion intentions at follow-up via changes in attitudes (# pos. for both LD and EBD) and subjective norm (for EBD) were carried out (see Fig. 1). For the LD vignette, changes in attitudes (# pos.) revealed no significant direct ($\beta = 0.007$, $p = 0.82$) or indirect effect ($\beta = 0.020$, $p = 0.09$) on inclusion intentions. In contrast, for the EBD vignette, significant indirect intervention effects both via attitudes (# pos., $\beta = 0.021$, $p = 0.001$) and via subjective norms ($\beta = 0.070$, $p = 0.01$) on inclusion intentions were found. There was also a significant (negative) direct effect of the intervention on intentions ($\beta = -0.054$, $p = 0.029$).

Sensitivity analysis The first sensitivity analysis, excluding the three classes from the experimental group with lower intervention fidelity (<9 lessons implemented) did not change the patterns of results (Appendix B). However, the second fidelity analysis, excluding the five control classes covering intervention relevant content during the waiting period changed some patterns (Appendix C). Significant intervention effects were now found for both timepoints regarding attitudes (# pos.) for the LD vignette (post-test: 0.89, $CI_{95\%}$ [0.23,1.55]; follow-up: 1.02, $CI_{95\%}$ [0.21,1.82]).

Table 2 Three-way mixed models

	Attitudes (# pos.) LD		Attitudes (# neg.) LD		PBC LD		Intentions LD	
Predictors	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95%CI*
Intercept	6.60***	[5.94; 7.26]	2.94***	[2.55; 3.32]	3.80***	[3.65; 3.95]	3.54***	[3.36; 3.73]
T2 (post)	0.74**	[0.25; 1.23]	0.23	[–0.14; 0.61]	0.04	[–0.08; 0.15]	0.02	[–0.11; 0.15]
T3 (follow-up)	0.62*	[0.04; 1.20]	0.13	[–0.37; 0.62]	–0.08	[–0.23; 0.08]	–0.08	[–0.25; 0.09]
Intervention	–0.56	[–1.37; 0.25]	0.15	[–0.32; 0.62]	0.00	[–0.18; 0.18]	–0.13	[–0.35; 0.10]
T2 × Interv.	0.55	[–0.05; 1.14]	–0.32	[–0.78; 0.13]	–0.09	[–0.23; 0.06]	0.07	[–0.08; 0.23]
T3 × Interv.	0.89*	[0.19; 1.59]	–0.23	[–0.83; 0.37]	0.06	[–0.13; 0.25]	0.11	[–0.10; 0.31]
Random Effects								
σ^2	7.88		4.09		0.42		0.45	
τ_{00}	7.29 class-ID:student-ID		3.77 class-ID:student-ID		0.48 class-ID:student-ID		0.66 class-ID:student-ID	
–	1.04 class-ID		0.20 class-ID		0.05 class-ID		0.09 class-ID	
τ_{11}	0.13 class-ID.timepoint		0.14 class-ID.timepoint		0.01 class-ID.timepoint		0.02 class-ID.timepoint	
ρ_{01}	–0.02 class-ID		–0.35 class-ID		–0.27 class-ID		–0.61 class-ID	
ICC	0.51		0.49		0.56		0.62	
N	51 class-ID		51 class-ID		51 class-ID		51 class-ID	
–	955 student-ID		955 student-ID		955 student-ID		955 student-ID	
Observations	2761		2761		2749		2749	
Marginal R^2/ Conditional R^2	0.020/0.524		0.001/0.493		0.001/0.558		0.002/0.622	

LD learning disability vignette, *# pos* Number of positive adjectives selected, *# neg* Number of negative adjectives selected, *PCB* Perceived behavioral control
Significance levels: * < 0.05, ** < 0.01, *** < 0.001

Additionally, in the mediation analysis, significant indirect intervention effects via attitudes (# pos., $\beta = 0.027$, $p = 0.02$) on intentions to include the LD vignette were now also found. The previously found (negative) direct effect of the intervention on intentions for the EBD vignette was now no longer significant ($\beta = -0.04$, $p = 0.102$).

4 Discussion

Many students with SEN included in regular schools face significant barriers regarding social inclusion. Peers of students with SEN are key in this process. In their review of typically developing students views and experiences of inclusive education, H. Bates et al. (2015) acknowledge this and state that schools urgently need

Table 3 Two-way mixed models (prediction of follow-up measures, baseline-adjusted)

	Attitudes (#pos.) EBD		Attitudes (# neg.) EBD		Social Norms LD		Social Norms EBD		PBC EBD		Intentions EBD	
Predictors	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*
(Intercept)	2.48***	[1.91; 3.05]	2.03***	[1.52; 2.54]	2.16***	[1.88; 2.45]	1.80***	[1.54; 2.06]	1.81***	[1.57; 2.06]	1.57***	[1.33; 1.81]
Baseline	0.53***	[0.47; 0.59]	0.45***	[0.39; 0.52]	0.46***	[0.40; 0.53]	0.47***	[0.41; 0.53]	0.45***	[0.39; 0.51]	0.49***	[0.43; 0.55]
Intervention	1.04***	[0.47; 1.61]	0.03	[–0.53; 0.59]	0.14	[–0.02; 0.29]	0.25**	[0.07; 0.44]	0.12	[–0.04; 0.29]	0.11	[–0.06; 0.28]
Random Effects												
σ^2	15.94		8.04		0.72		0.96		0.96		0.98	
τ_{00}	0.00 class-ID		0.42 class-ID		0.03 class-ID		0.04 class-ID		0.04 class-ID		0.03 class-ID	
ICC	0.00		0.05		0.04		0.04		0.04		0.02	
N	51 class-ID		51 class-ID		51 class-ID		51 class-ID		51 class-ID		51 class-ID	
Observations	871		871		872		868		868		867	
Marginal R^2/ Conditional R^2	0.257/0.257		0.177/0.218		0.207/0.236		0.237/0.268		0.237/0.268		0.231/0.250	

LD learning disability vignette, *EBD* emotional/behavioral disability vignette, *# pos* Number of positive adjectives selected, *# neg* Number of negative adjectives selected, *PCB* Perceived behavioral control

Significance levels: * < 0.05, ** < 0.01, *** < 0.001

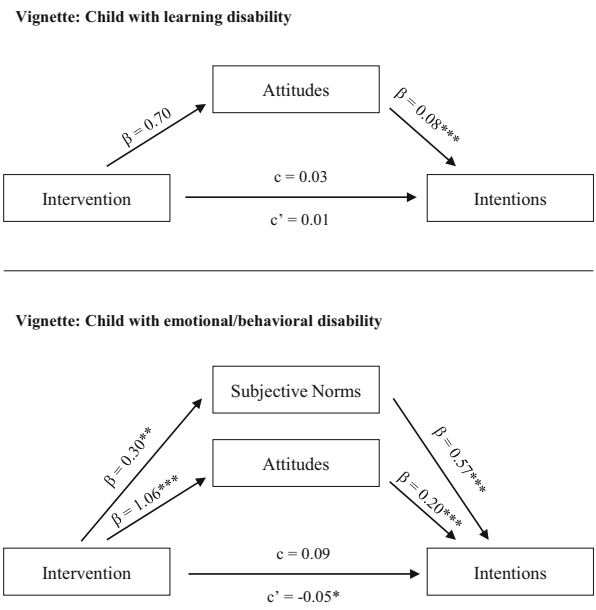

Fig. 1 Multilevel mediation analysis of intervention on intentions via changes in subjective norms and/or attitudes (number of selected positive adjectives). Controlled for baseline (pre-test) subjective norms, positive adjectives, intentions measures. Indirect effect via attitudes: $\beta = 0.02$, $p = 0.01$. Indirect effect via subjective norms: $\beta = 0.07$, $p = 0.01$. c = total effect, c' = direct effect. Standardized regression coefficients are displayed. * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

to provide teaching about inclusive education and to increase contact opportunities between students with and without SEN. Here, we tested the effects of a curriculum-based diversity awareness program based on the teaching resource *Prinzip Vielfalt* on predictors of inclusive peer behavior and found promising effects.

4.1 Effects of the intervention

Our findings indicate that while the intervention did not directly influence intentions or self-efficacy, it significantly improved attitudes and subjective norms toward peers with SEN with visible effects 3 months after teachers administered the diversity-awareness program. Additional mediation analyses further revealed indirect effects of attitudes and subjective norms on students' inclusion intentions.

Selective effects on attitudes and subjective norms The intervention predominantly had an effect on attitudes and subjective norms, but not on PBC and inclusion intentions. This selective effect could be attributed to two main factors: Firstly, our diversity-awareness program strongly emphasized questioning prejudices and stereotypes, promoting the understanding that all people have unique strengths. This approach likely led to the interesting effect of an increase in perception of positive attributes (# pos.) in peers with LD and EBD, but without a decrease in the perception of negative attributes (# neg.). This shift represents a more balanced view, acknowledging both strengths and weaknesses. Classroom discussions about diversity may have also influenced subjective norms by highlighting peer support for inclusion. Secondly, although the program aimed to foster PBC, developing social skills is resource-intensive and likely requires more targeted interventions, including direct contact activities with peers with SEN (Marom et al. 2007). This aligns

with McManus et al. (2021) finding that attitudinal aspects are more susceptible to change through interventions than actual inclusive behaviors.

Mediated effects on intentions via attitudes and subjective norms Improvements in attitudes and subjective norms due to the intervention were associated with an increase in inclusion intentions, further supporting the TPB framework and its utility in understanding and promoting inclusive peer behavior. This finding reveals several important insights. First, although the intervention did not directly affect inclusion intentions, the indirect effects suggest that this process may require more time to fully manifest. Interestingly, significant effects were also primarily observed 3 months after the intervention (although additional intervention fidelity analyses indicated some attitudinal changes immediately at post-intervention, too). The delayed effects may be attributed to students needing time to internalize new perspectives, to solidify changes in attitude and norms, and to observe and reflect on diversity in daily school experiences (similar to the concept of "sleeper effects", Kumkale and Albarracín 2004). Second, as already noted, attitudes and subjective norms appear more susceptible to change than PBC. But studies indicate strong relationships of PBC with intentions and behavior (e.g., Freitag and Dunsmuir 2015), highlighting the importance of targeting this component more strongly. Third, the negative direct intervention effect on intentions observed when controlling for changes in attitudes or subjective norms suggests that engagement with the topic without accompanying improvements in these areas could potentially have detrimental effects, underscoring the need for careful implementation of intervention materials by teachers.

More pronounced effects for the EBD vignette Significant improvements in subjective norms were observed only for the vignette of a child with EBD, not for the child with LD. Effects on attitudes also appeared slightly more pronounced. Stronger pre-existing negative stereotypes and norms about peers with EBD likely provided greater room for improvement. Further, children with EBD are often more visible and disruptive in classroom settings, making them a more salient target for attitude change. Also, certain aspects of the intervention, such as perspective-taking exercises involving an excluded child attempting to connect with peers, may be associated more strongly with peers with EBD, who often struggle with appropriate peer behavior. However, these effects seem particularly promising, given that students with EBD tend to suffer most from social exclusion (Schwab 2015).

Potential generalizability of the intervention This study used vignettes of students with LD or EBD to measure effects of an intervention fostering appreciation of human diversity in general. Given its broad focus, positive effects of the intervention could potentially extend beyond attitudes toward peers with SEN to other domains such as gender or cultural diversity. Future studies could assess whether benefits are particularly pronounced for students with SEN or if they generalize also to other aspects of human diversity.

4.2 Advantages of accessible interventions

While actual behavior is arguably the most critical aspect to change, it is also the most challenging to influence directly. Our findings demonstrate that curriculum-based diversity-awareness programs such as *Prinzip Vielfalt* were successfully implemented by the vast majority of teachers and can positively affect attitudes and subjective norms, indirectly influencing inclusion intentions. These are crucial initial steps in driving behavioral change. Although the intervention effects may be considered small, they are nonetheless significant in fostering more inclusive classrooms and promoting an appreciation for human diversity. Moreover, such accessible interventions offer several advantages: they are cost-effective, relatively easy to implement across diverse settings, and more likely to be adopted by a broader population of educators (Durlak and DuPre 2008; Glasgow et al. 1999; Han and Weiss 2005).

4.3 Limitations

Some limitations of the study should be considered. First, statements regarding behavior change cannot be made with our design, even if substantial changes in intentions would have been found. Although there exist studies that suggest that inclusion intentions predict inclusive behavior (e.g., Freitag and Dunsmuir 2015), this is an assumption that needs to be more thoroughly tested, and there is a lack of observational studies assessing more objective changes in inclusion behavior after interventions. Second, the intervention was relatively short at 12 lessons and utilized only a small portion of the available teaching materials, which may have limited its potential effect. Lastly, implementation fidelity was not directly observed or verified, leaving open the possibility of inconsistencies in how the intervention was delivered across classrooms.

5 Conclusion

Students with SEN often face significant barriers to social participation in regular schools. Our study demonstrates the promising effects of an accessible diversity awareness program in addressing these challenges, with the Theory of Planned Behavior providing a valuable framework for understanding and promoting inclusive peer behavior. However, meaningful change requires sustained effort. Continuously integrating diversity-related topics into school curricula should be a constant endeavor to promote inclusive peer behavior, benefiting not only students with SEN, but all students. This ongoing approach is crucial for creating truly inclusive educational environments where all students can reach their full potential socially and academically.

6 Appendix

6.1 Apendix A

Table A.1 Intervention lesson overview

Lessons	Target competencies	Description of the lessons	Methods
1 & 2	Self-reflection, empathy, and perspective-taking; recognizing that perceptions can be different and deceptive	The teacher reads the students a story about a situation where a new child at school attempts to make contact to other children, encouraging them to explore different perspectives. Working both individually and in pairs, students assess pictures they have of themselves and of each other	Storytelling, self-reflection and peer exchange
3 & 4	Challenging preconceptions, understanding accessibility, questioning social norms & attitudes	Students watch a film clip about a successful musician with severe physical disabilities, reflecting on their perception of him before and after the film clip. The lesson moves on to exploring personal prejudices, particularly gender biases, examining their origins. The session concludes with students exchanging positive feedback. Overall, the lesson focuses on challenging preconceptions, understanding accessibility, and recognizing personal biases	Film analysis, self-reflection, group discussions
5 & 6	Learning that all have strengths and weaknesses, gaining awareness for the merits of teamwork and team success	Students become acquainted with the educational game "The Unstoppables". They assist a group of four diverse friends with various disabilities and body types in rescuing a dog from his captor. Only through teamwork they can overcome various challenges Students report on their experiences with the game and identify the strengths of the characters. Following this, they create their own character that could be beneficial within the game. The students give each other positive feedback on their teamwork	Playing/ reflecting on the app Creative art work, giving feedback
7 & 8	Understanding the values of others; building affection, trust & equality, learn how to initiate positive contact	Participants draw themselves with their circle of friends and reflect on what is important to them in friendships. They create a collage that visualizes important aspects and exchange their ideas in groups using the placemat method. They consider how to make contact with other students in new situations, e.g., when coming to a new class, and think about what strategies are helpful and why. Students get the name of another student, think about what they like about the student, and give a compliment	Drawing & crafting collages Placemat, giving compliments
9 & 10	Fostering empathy, perspective-taking, initiating positive contact, improving social skills	The teacher rereads the story from the first lesson. Students then engage in group role-playing activities to continue to story, focusing on positive social interactions and inclusion. Groups present their role-play to the class, followed by class discussions. Students reflect about their experiences and consider how they would respond to exclusionary situations	Role play Reflection and group discussions
11 & 12	Fostering cooperation and teamwork, learning how to combine individual strengths to master challenges together	Students participate in a physical version of "The Unstoppables" game in the gym, taking on roles of characters with diverse abilities. They navigate stations and solve tasks to rescue a dog. After the activity, students reflect on their experience, focusing on character strengths, personal feelings, teamwork and inclusion, and the challenges successfully faced. The lesson concludes with students exchanging positive peer feedback	Physical and cognitive team, exercises, group discussions, giving feedback

6.2 Appendix B: analyses without teachers/classes only partially adhering to the intervention plan

Table B1 Three-level mixed models

	Attitudes (# pos.) LD		Attitudes (# neg.) LD		PCB LD		Intentions LD	
Predictors	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95%CI*
Intercept	6.60***	[5.94; 7.26]	2.93***	[2.54; 3.33]	3.80***	[3.64; 3.95]	3.54***	[3.35; 3.73]
T2 (post-test)	0.74**	[0.26; 1.23]	0.23	[–0.13; 0.60]	0.04	[–0.08; 0.16]	0.02	[–0.11; 0.15]
T3 (follow-up)	0.62*	[0.05; 1.19]	0.13	[–0.34; 0.60]	–0.07	[–0.23; 0.08]	–0.08	[–0.25; 0.09]
Intervention	–0.43	[–1.24; 0.38]	0.20	[–0.28; 0.68]	–0.01	[–0.20; 0.19]	–0.14	[–0.38; 0.09]
T2 × Intervention	0.45	[–0.14; 1.05]	–0.41	[–0.86; 0.04]	–0.09	[–0.24; 0.06]	0.08	[–0.08; 0.23]
T3 × Intervention	0.78*	[0.08; 1.48]	–0.36	[–0.94; 0.22]	0.07	[–0.12; 0.26]	0.11	[–0.10; 0.33]
Random Effects								
σ^2	7.85		4.05		0.42		0.46	
τ_{00}	7.16 class-ID:student-ID		3.67 class-ID:student-ID		0.48 class-ID:student-ID		0.66 class-ID:student-ID	
–	1.03 class-ID		0.23 class-ID		0.05 class-ID		0.09 class-ID	
τ_{11}	0.12 class-ID.timepoint		0.12 class-ID.timepoint		0.01 class-ID.timepoint		0.02 class-ID.timepoint	
ρ_{01}	0.11 class-ID		–0.29 class-ID		–0.28 class-ID		–0.60 class-ID	
ICC	0.51		0.49		0.56		0.62	
N	48 class-ID		48 class-ID		48 class-ID		48 class-ID	
–	904 student-ID		904 student-ID		904 student-ID		904 student-ID	
Observations	2619		2619		2610		2611	
Marginal R^2/ Conditional R^2	0.018/0.519		0.001/0.491		0.001/0.560		0.003/0.623	

LD learning disability vignette, *# pos* Number of positive adjectives selected, *# neg* Number of negative adjectives selected, *PCB* Perceived behavioral control
Significance levels: * < 0.05, ** < 0.01, *** < 0.001

Table B.2 Two-level mixed models. Prediction of follow-up measures, baseline-adjusted

	Attitudes (#pos) EBD		Attitudes (# neg.) EBD		Social Norms LD		Social Norms EBD		PBC EBD		Intentions EBD	
Predictors	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*
(Intercept)	2.47***	[1.90;3.04]	2.01***	[1.52; 2.50]	2.16***	[1.87; 2.45]	1.78***	[1.51; 2.05]	1.81***	[1.55; 2.06]	1.58***	[1.34; 1.83]
Baseline	0.53***	[0.47; 0.59]	0.46***	[0.39; 0.52]	0.46***	[0.40; 0.53]	0.48***	[0.42; 0.54]	0.45***	[0.39; 0.51]	0.48***	[0.42; 0.54]
Intervention	1.07***	[0.50; 1.64]	–0.10	[–0.64; 0.44]	0.15	[–0.01; 0.31]	0.26**	[0.08; 0.45]	0.12	[–0.05; 0.29]	0.12	[–0.06; 0.30]
Random Effects												
σ^2	15.48		7.78		0.71		0.96		0.85		0.97	
τ_{00}	0.00 $_{\text{class-ID}}$		0.34 $_{\text{class-ID}}$		0.03 $_{\text{class-ID}}$		0.04 $_{\text{class-ID}}$		0.03 $_{\text{class-ID}}$		0.03 $_{\text{class-ID}}$	
ICC	–		0.04		0.04		0.04		0.03		0.03	
N	48 $_{\text{class-ID}}$		48 $_{\text{class-ID}}$		48 $_{\text{class-ID}}$		48 $_{\text{class-ID}}$		48 $_{\text{class-ID}}$		48 $_{\text{class-ID}}$	
Observations	826		826		827		823		825		824	
Marginal R^2/ Conditional R^2	0.265/NA		0.191/0.225		0.207/0.240		0.243/0.274		0.207/0.234		0.232/0.253	

LD learning disability vignette, *EBD* emotional/behavioral disability vignette, *# pos* Number of positive adjectives selected, *# neg* Number of negative adjectives selected, *PCB* Perceived behavioral control

Significance levels: * < 0.05, ** < 0.01, *** < 0.001

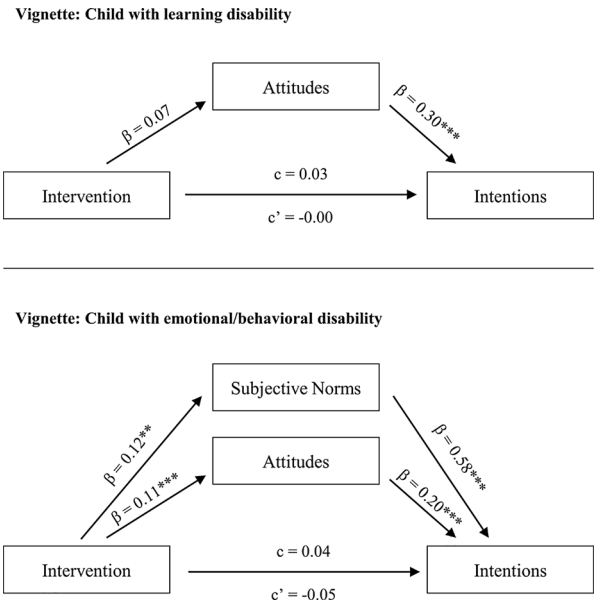

Fig. B.1 Multilevel mediation analysis of intervention on intentions via changes in subjective norms and/or attitudes (number of selected positive adjectives). Controlled for baseline (pre-test) subjective norms, positive adjectives, intentions measures. Indirect effect via attitudes: $\beta = 0.02$, $p = 0.001$. Indirect effect via subjective norms: $\beta = 0.07$, $p = 0.01$. c = total effect, $c' =$ direct effect. Standardized regression coefficients are displayed. * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

6.3 Appendix C: analyses without teachers/classes in control condition covering intervention relevant content

Table C.1 Three-level mixed models

	Attitudes (# pos.) LD		Attitudes (# neg.) LD		PCB LD		Intentions LD	
Predictors	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95%CI*
Intercept	6.36***	[5.61; 7.11]	2.96***	[2.50; 3.42]	3.85***	[3.67; 4.03]	3.54***	[3.32; 3.76]
T2 (post)	0.39	[–0.18; 0.97]	0.05	[–0.38; 0.49]	–0.04	[–0.17; 0.10]	–0.02	[–0.17; 0.12]
T3 (follow-up)	0.49	[–0.20; 1.19]	0.03	[–0.55; 0.60]	–0.14	[–0.31; 0.04]	–0.09	[–0.27; 0.10]
Intervention	–0.32	[–1.19; 0.55]	0.13	[–0.40; 0.66]	–0.05	[–0.26; 0.16]	–0.13	[–0.38; 0.12]
T2 × Intervention	0.89**	[0.23; 1.55]	–0.14	[–0.64; 0.36]	–0.02	[–0.17; 0.14]	0.11	[–0.05; 0.28]
T3 × Intervention	1.02*	[0.21; 1.82]	–0.13	[–0.80; 0.54]	0.12	[–0.08; 0.32]	0.11	[–0.10; 0.33]
Random Effects								
σ^2	7.66		3.85		0.40		0.44	
τ_{00}	6.80 class-ID:student-ID		3.36 class-ID:student-ID		0.46 class-ID:student-ID		0.62 class-ID:student-ID	
–	0.92 class-ID		0.24 class-ID		0.05 class-ID		0.08 class-ID	
τ_{11}	0.15 class-ID.timepoint		0.14 class-ID.timepoint		0.01 class-ID.timepoint		0.01 class-ID.timepoint	
ρ_{01}	–0.23 class-ID		–0.35 class-ID		–0.19 class-ID		–0.47 class-ID	
ICC	0.50		0.48		0.56		0.62	
N	46 class-ID		46 class-ID		46 class-ID		46 class-ID	
–	871 student-ID		871 student-ID		871 student-ID		871 student-ID	
Observations	2521		2521		2508		2508	
Marginal R^2/ Conditional R^2	0.023/0.513		0.000/0.483		0.001/0.558		0.002/0.616	

LD learning disability vignette, *EBD* emotional/behavioral disability vignette, *# pos* Number of positive adjectives selected, *# neg* Number of negative adjectives selected, *PCB* Perceived behavioral control
Significance levels: * < 0.05, ** < 0.01, *** < 0.001

Table C.2 Two-level mixed models. Prediction of follow-up measures, baseline-adjusted

	Attitudes (#pos.) EBD		Attitudes (#neg.) EBD		Social Norms LD		Social Norms EBD		PBC EBD		Intentions EBD	
Predictors	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*	*Est.*	*95% CI*
(Intercept)	2.50***	[1.87; 3.13]	1.90***	[1.35; 2.46]	2.10***	[1.79; 2.41]	1.81***	[1.54; 2.09]	1.84***	[1.57; 2.11]	1.59***	[1.33; 1.85]
Baseline	0.52***	[0.46; 0.58]	0.43***	[0.36; 0.50]	0.48***	[0.42; 0.55]	0.48***	[0.42; 0.54]	0.45***	[0.38; 0.51]	0.48***	[0.42; 0.55]
Intervention	1.07***	[0.43; 1.70]	0.24	[–0.34; 0.83]	0.12	[–0.04; 0.29]	0.21*	[0.03; 0.39]	0.10	[–0.07; 0.28]	0.10	[–0.09; 0.28]
Random Effects												
σ^2	15.68		7.80		0.67		0.90		0.85		0.95	
τ_{00}	$0.00_{\text{class-ID}}$		$0.31_{\text{class-ID}}$		$0.02_{\text{class-ID}}$		$0.02_{\text{class-ID}}$		$0.02_{\text{class-ID}}$		$0.02_{\text{class-ID}}$	
ICC	–		0.04		0.03		0.02		0.02		0.02	
N	$46_{\text{class-ID}}$		$46_{\text{class-ID}}$		$46_{\text{class-ID}}$		$46_{\text{class-ID}}$		$46_{\text{class-ID}}$		$46_{\text{class-ID}}$	
Observations	797		797		798		795		792		793	
Marginal R^2/ Conditional R^2	0.248/NA		0.159/0.191		0.215/0.241		0.244/0.261		0.194/0.213		0.225/0.242	

LD learning disability vignette, *EBD* emotional/behavioral disability vignette, *# pos* Number of positive adjectives selected, *# neg* Number of negative adjectives selected, *PCB* Perceived behavioral control

Significance levels: * < 0.05, ** < 0.01, *** < 0.001

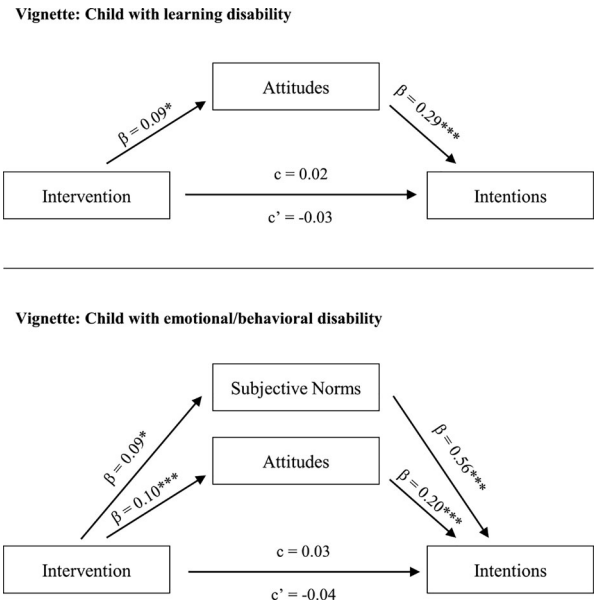

Fig. C.1 Multilevel mediation analysis of intervention on intentions via changes in subjective norms and/or attitudes (number of selected positive adjectives). Controlled for baseline (pretest) subjective norms, positive adjectives, intentions measures. LD: Indirect effect via attitudes: $\beta = 0.03$, $p = 0.02$. EBD: Indirect effect via attitudes: $\beta = 0.02$, $p = 0.001$. Indirect effect via subjective norms: $\beta = 0.05$, $p = 0.04$. c = total effect, c' = direct effect. Standardized regression coefficients are displayed. * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

6.4 Appendix D: questionnaire (in German)

6.4.1 Child vignettes: Learning Disability (LD)

Das ist Alex.

- Alex geht gerne in die Schule.
- Alex ist in der Schule nicht so gut wie die anderen Kinder.
- Alex hat Schwierigkeiten beim Lesen, Rechnen und Schreiben.
- Alex bekommt Hilfe von einer zweiten Lehrperson.
- Alex benötigt mehr Zeit, um eine Aufgabe zu verstehen oder fertig zu werden.

6.4.2 Child vignettes: Emotional/Behavioral Disability (EBD)

Das ist Kim.

- Kim geht gerne in die Schule.
- Kim fällt es nicht leicht, stillzusitzen und sich zu konzentrieren.
- Kim ist manchmal zappelig und laut.
- Kim kann schnell wütend werden.
- Kim kann sich dann lange nicht beruhigen, obwohl das Kim später oft leid tut.

Stell dir [Name] vor. Was denkst du, wie [Name] so ist? Umkreise so viele Wörter, wie du willst.

Fig. D.1 Adjective Checklist (Siperstein 1980; own translation)

gesund	schlau	klug	hässlich
ordentlich	verrückt	grausam	ehrlich
sorgfältig	intelligent	unvorsichtig	dumm
langsam	unglücklich	aufmerksam	glücklich
einsam	gierig	stolz	beschämt
froh	gelangweilt	unehrlich	freundlich
schlampig	gemein	voll okay	nett
hübsch	fröhlich	schwach	traurig
blöd	hilfsbereit		

6.4.3 Subjective norms (5-point Likert Scale)

Was denken deine Freunde und Familie?

1. Meine Familie und meine Freunde hätten nichts dagegen, wenn ich mit Kindern wie Kim befreundet bin.
2. Meine Familie und meine Freunde fänden es gut, wenn ich mit Kindern wie Kim spiele.
3. Meine Familie und meine Freunde hätten nichts dagegen, wenn ich Kinder wie Kim zu mir nach Hause einlade.

6.4.4 Perceived behavioral control (5-point Likert Scale)

Wie gut könntest du diese Dinge?

1. Es wäre einfach für mich, mit Kindern wie Kim zu reden.
2. Es wäre einfach für mich, mit Kindern wie Kim zu spielen.
3. Es wäre einfach für mich, mit Kindern wie Kim Schulaufgaben zu lösen.

6.4.5 Intentions to include (5-point Likert Scale)

Wenn Kim in deine Klasse kommen würde: Welche Antwort passt?

1. Ich würde mit Kim spielen.
2. Ich würde mit Kim die Schulpausen verbringen.

   Ich würde Kim für eine Gruppenarbeit als Partner wählen.

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