

# The Social and Emotional Situation of First Graders with Classroom Behavior Problems and Classroom Learning Difficulties in Inclusive Classes

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*The inclusion of children with special educational needs (SEN) in general education classrooms in Europe due to education policy and social developments is currently up for debate, especially in Germany. This paper addresses whether or not co-education of students with and without classroom problems and/or disabilities has negative consequences with respect to social and emotional situation within the classroom community. Although international research on inclusion shows an increased risk of social isolation for children with SEN, conclusions are not clear with German populations. In this study, 2,839 first graders were surveyed to determine if children with classroom behavior problems (CBP) and classroom learning difficulties (CLD) are more likely to be socially rejected than their peers. Sociometric interviews and a questionnaire were used to assess social integration, feeling of being accepted by the classroom teacher, academic self-concept, and classroom climate. Results reveal that first grade students with CBP and CLD experienced significantly higher levels of social rejection. An exploratory analysis based on the distribution of social and emotional differences between students with and without CBP and CLD supports these results at the classroom and school levels.*

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**Keywords:** social inclusion, social exclusion, integration research, first graders, elementary school, social and emotional functioning, classroom learning difficulties, classroom behavior problems

## INTRODUCTION

The implementation of article 24 of the UN-Convention on the Rights of Persons with Disabilities brought about worldwide change to education systems, particularly in Germany and other European countries. Future developments in education practices related to this policy will lead to an increase of the co-education of children and adolescents with and without special educational needs (SEN) in inclusive classrooms. During the 2011-2012 school year, about 5% of all German students were identified with SEN, 27% of which were educated with non-disabled children

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(allowing for large fluctuations between several federal states). This trend is continuing (Malecki, 2013), with Poscher et al. (2008) predicting that 80% of students with SEN will be integrated into mainstream classrooms.

These changes in education policy may have significant consequences for students with SEN. Several empirical studies have shown that children with SEN achieve better academic success in inclusive settings compared to their peers in special schools (Lindsay, 2007; Myklebust, 2002; Bless & Mohr, 2007; Haeberlin et al., 1999). However, studies investigating social integration point to an increased risk of social exclusion for students with SEN (Bakker & Bosman, 2003; Bless, 2000; Bless & Mohr, 2007; Frederickson & Furnham, 2001; Haeberlin, 1991; Krull, 2014; Huber, 2008; Kavale & Forness, 1996; Wilbert & Huber, 2012). The present paper focuses on the social and emotional situation of first graders with classroom behavior problems (CBP) and classroom learning difficulties (CLD) in inclusive settings.

It is important to note that many of the studies referenced in this article have differing conceptualizations of the terms learning disabilities and emotional-behavioral disorders. In the U.S., "learning disability" generally refers to students performing significantly lower academically than would be expected given their cognitive abilities (Schröder, 2005). With respect to the term emotional-behavioral disorders, there is also no universal definition. Many of the referenced studies have varied conceptualizations of emotional-behavioral disorders (e.g. specified diseases included). Therefore, both terms should be qualified with this in mind.

Because the focus of our study was on classroom problems, we assessed teachers' perceptions of students' classroom behavior. For this reason, we want to emphasize that throughout this study we refer to first graders with and without classroom behavior problems and classroom learning difficulties but not to students with standardized diagnostic classifications of emotional-behavioral disorders or learning disabilities.

Based on a literature review including 21 studies, predominantly by American authors, published between 1970 and 1990, Haeberlin (1991) found that children with learning disabilities were consistently less socially accomplished than their typical peers. Kavale and Forness (1996) found the same conclusion in their international comparative meta-analysis. Based on summaries of international research, Bless (2000) and Bless and Mohr (2007) concluded that there were less favorable social positions for children with learning disabilities. According to Bless (2000), only 11 (including two reviews) of the 59 studies drew contrary conclusions. In the U.S., Flicek and Landau (1985) compared sociometric positions of learning disabled and learning disabled - hyperactive students, grades 3-6, with their non-disabled peers in inclusive classrooms. The social status of both groups was significantly worse compared to their typical peers. Frederickson and Furnham (2001) conducted a longitudinal study in England with 416 students ages 8 through 10, 41 of which were identified with learning disabilities, over a period of two years. Again, results concluded that children with SEN received significantly more sociometric rejections compared to their peers without SEN. Avramidis (2010), Estell et al. (2008), Frederickson and Furnham (2004), Harter et al. (1998), Koster et al., (2010), Malone and Swanson (1992), Pavri and Luftig (2000), Pijl and Frostad (2010) and Vaughn et al. (1996) came to similar conclusions.

In contrast, results from German populations draw a more heterogeneous picture. As part of a model experiment, Wocken (1987) investigated the social integration of disabled and non-disabled children in terms of equivalent socio-emotional relationships. He conducted a longitudinal study with 219 elementary school students (39 identified with SEN) in integrated classroom settings over a three year period. Cluster analyses of sociometric status positions did not show uniform results. On the one hand, there were no significant differences in terms of negative peer nominations of students with and without SEN. On the other hand, children without SEN were nominated as popular significantly more often than children with SEN. Studies published by Dumke and Schäfer (1993), Maikowski and Podlesch (1999) and Preuss-Lausitz (1991, 2005) came to similar conclusions. Huber (2006; 2008) collected data on the social integration of 649 German students (including 110 with SEN) from 30 classes. Regarding to the results of Wocken (1987) and Dumke and Schäfer (1993), a replication of the status of acceptance and rejection was possible. A subsequent analysis of allocation towards the sociometric status-groups (Coie & Dodge, 1988; Gasteiger-Klicpera & Klicpera, 1997), however, showed a rejection of 48% of all students with SEN. Thus, those children had three times the risk of social exclusion compared to their classmates without SEN. Similarly, Huber and Wilbert (2012) found these results in their study on the social integration of third and fourth graders with SEN. Therefore, Huber (2006, 2008) and Huber and Wilbert (2012) confirm the integration research studies from Switzerland and Austria (Haeberlin et al., 1999; Klicpera & Gasteiger-Klicpera, 2001; Schwab et al., 2013).

In summary, it can be said that the research on social integration of children with SEN in mainstreaming schools convey a heterogeneous picture internationally. Results from non-German countries are more likely to indicate less favorable integration status of students with SEN, whereas results from Germany show both positive and negative effects. One possible reason for the differential findings in the integration research might be that German studies did not often conform to methodically solid standards (Goetze, 2008).

However, the majority of studies on social integration in mainstream classes are based on a sample of students with learning disabilities. In this context, significantly fewer studies involve children with emotional-behavioral disorders. Bierman et al. (1993), Chang (2004), Coie et al. (1991), Goetze (2008) and Gottlieb et al. (1986) focused on students with emotional-behavioral disorders and found that these children faced worse social integration compared to children with learning disabilities. Dyson (2010) emphasized that students with externalizing disorders are affected by social rejection at higher rates primarily due to two causes: Children with emotional-behavioral disorders are less socially skilled than their peers (Goetze, 2008; Huber & Wilbert, 2012) and they pose a higher risk for establishing order in the classroom (Textor 2010; Müller, 2008). A less favorable social integration of students with emotional-behavioral disorders is also found in German studies (Preuss-Lausitz, 2005; Gloystein & Textor, 2005). It should be noted, however, that the majority children in these studies also had one or two friends within their class.

As far as students with learning disabilities in inclusive settings as well as in special schools are concerned, there is consensus among experts that poor academic performance is a typical characteristic of these populations (Kavale & Forness, 2000).

In this context, research suggests that students with learning disabilities are likely to differ from their peers without SEN regarding their academic self-concept, which is an important consideration of the academic socialization process (Shajek et al., 2006). Several studies indicate that in inclusive classrooms, children with learning disabilities are affected by a more negative academic self-concept than their non-disabled peers (Lindsay, 2007; Sauer et al., 2007; Elbaum, 2002; Bless & Mohr, 2007; Bless, 2000, Tabassam & Graininger, 2002; Gans et al., 2003; Stone & May, 2002). Based on a meta-analysis including 61 studies, Bear et al. (1998) confirmed that students with learning disabilities perceived their academic ability less favorably compared to their non-learning disabled peers. In his review, Zeleke (2004) found that 25 out of 28 studies (89%) drew similar conclusions.

### RESEARCH QUESTIONS AND HYPOTHESES

Based on the current state of research in this area, we assume that students with CBP or CLD and combined CLD and CBP are not comfortable with their social and emotional situation in school. In addition, most of them feel less socially integrated by their peers compared to children without classroom problems and/or disabilities. A second aim of this study is to investigate whether the type of classroom problem (CLD vs. CBP) impacts the intensity of social exclusion within the classroom and their academic self-concept.

Huber and Wilbert (2012) and Krull and colleagues (Krull et al., 2014) found considerable differences between classes with regard to the intensity of social exclusion of students with SEN (Huber & Wilbert, 2012; Krull et al., 2014). Due to the small samples in both studies, these descriptive results could not be tested statistically. Another aim of the current study is to replicate and test these results in a larger sample.

Based on these considerations, we propose the following hypotheses:

1. Students with CLD and/or CBP experience significantly more negative social and emotional situations in their classes compared to students without classroom problems and/or disabilities: They hold a more negative academic self-concept, they feel less accepted by their teachers, and they estimate the class climate less favorably than their typical classmates.
2. Students with CLD and/or CBP are socially excluded within their class more often than children without these classroom problems and/or disabilities.
3. Students with only CBP are exposed more frequently to social exclusion from their peers than children with only CLD.
4. Students with only CLD suffer from a poorer academic self-concept more often compared to children with only CBP.
5. The unfavorable social and emotional situation of students with CLD and/or CBP varies across classrooms.
6. Additionally, an exploratory analysis investigates whether these differential effects can also be found at the school level.

## METHOD

### Sample

Study participants were selected from 64 inclusive elementary schools in an administration district in North Rhine-Westphalia, Germany. All classes with less than 15 students per class were excluded from the study, resulting in a sample of 2839 students from 122 classes. The mean age was 6.47 ( $SD = 0.54$ ) years, 48% were female, and 32% were born in families with migration background. Students with different classroom problems and/or disabilities (physical problems, intellectual problems, hearing and visual problems) represented 3 percent of the total sample. Students with CBP, CLD, and language problems each represented 9% of the sample. As our research question and hypotheses focus on students with CLD and/or CBP, we aggregated all students with other classroom problems and/or disabilities into a single group (miscellaneous classroom problems and /or disabilities). Furthermore, we distinguished students with exclusive CLD (only CLD), exclusive CBP (only CBP) and combined CBP and CLD (but with no other third classroom problem and/or disability). In this sample, there were 145 children with only CBP, 122 with only LD, and 30 children with combined CLD and CBP. As mentioned, 285 students had miscellaneous kinds of classroom problems and/or disabilities and 2257 children did not have disabilities and increased behavior and learning problems in the classroom. The age did not differ significantly between the groups ( $F(4,2683) = 1.77; p > 0.13$ ). On average, all students were between 6.5 and 6.7 years old. Moreover, gender was uneven distributed among groups ( $\chi^2(4) = 66.97; p < .001$ ). The number of boys with only CBP and with combined CBP and CLD was three to four times higher than the number of girls. In contrast, the proportion of girls and boys within the subsample of children with only CLD was even (see Table 1).

**Table 1. Distribution of sample by gender**

	<i>n</i>	<i>male</i>	<i>female</i>	<i>M(SD)<sub>Age</sub></i>
only CBP	145	110(76%)	34(24%)	6.5(0.6)
only CLD	122	61(50%)	61(50%)	6.5(0.6)
combined CLD/CBP	30	24(80%)	6(20%)	6.7(0.6)
MISC CP and/or D	285	168(59%)	116(41%)	6.5(0.6)
without CP and/or D	2257	1064(47%)	1187(53%)	6.5(0.5)

Note. Combined CLD/CBP = students with CLD and additional CBP. MISC CP and/or D = students with miscellaneous classroom problems and/or disabilities except “only CBP”, “only CLD” and “combined CLD/CBP”. Without CP and/or D = students without classroom problems and/or disabilities

## **Materials**

### ***Classroom behavior problems and classroom learning difficulties***

Classroom teachers were surveyed regarding the presence of classroom problems for all students within their classroom. For each student, teachers were asked to indicate what they assumed that he or she had CBP and/or CLD. In addition, they labeled those children with further classroom problems and/or disabilities based on a list of five options (language problems, physical problems, intellectual problems, hearing problems and visual problems). The teachers were not provided with definitions of these classroom problems categories prior to rating each student.

### ***Social integration***

The social integration of each student was defined through sociometric status within his or her class as rated by peers. Therefore, children had to nominate their classmates in four sociometric dimensions (without limitation of the number of nominations). There were two dimensions related to social proximity (“Name the classmates next to whom you like to sit most?” and “Name the classmates next to whom you like sit least?”) and two dimensions referring to classroom behavior (“Who of your classmates helps other children the most?” as well as “Who of your classmates is mean at school?”) (Moreno, 1967; Dollase, 1976; Petillon, 1978, Cillesen, 2009). Students were told that they could not nominate themselves and that they were allowed to nominate the same person for more than one question. Using these sociometric criteria gives a broad overview of the affection and rejection between the individual boys and girls within a class. The reliability coefficients for sociometric methods range from  $r_{tt} = .75$  (Asher et al., 1979) to  $r_{tt} = .80$  (Bukowski & Newcomb, 1984). The validity coefficients are between  $r = .45$  and  $r = .80$  (Gottlieb et al., 1986).

### ***Subjective social and emotional experiences in school***

To assess social and emotional experiences in school, a modified version of the FEES 1-2 questionnaire, developed by Rauer and Schuck (2004), was used. Based on three subscales, *academic self-concept* (15 items), *feeling of being accepted* by the teacher (13 items), and *class climate* (11 items), data regarding relevant psychological and pedagogical views, estimations, and attitudes of the students were collected. The participants had to decide whether they agreed or disagreed with a set of the statements. There was no possibility for them to give a neutral response. The internal consistency of the three FEES subscales based on the data of the present study is low, with Cronbach's  $\alpha$  ranging from .62 and .70. A principal component analysis reveals that these unexpectedly low values are due to negatively keyed items within each scale, which form distinct components. However, we maintained the original scale coding to keep the results comparable to other studies using the FEES.

## **Procedure**

From February through May of 2012 (from the beginning to the middle of the second school semester), data were collected in 148 classes with the help of intensively trained students from the University of Cologne. For the survey, there was a ten- to-fifteen-minute one-on-one interview conducted with each first grader. First,

the children had to answer 39 items of the FEES. Afterwards, they had to nominate their classmates concerning the four sociometric dimensions. All interviews took place in an adjoining room next to the classroom so that the lessons could be held at the same time. After the interviews, the classroom teachers rated the CLD and/or CBP and, additionally, further classroom problems and/or disabilities of their students.

### ***Design and data analysis***

The grouping variable of the study which is the predictor of the evaluation model is the kind of classroom problem (“only CLD”: students with exclusive CLD, “only CBP” students with exclusive CBP, “combined CLD/CBP”: students with CLD and CBP but no other classroom problems and/or disabilities, “MISC CP and/or D”: students with miscellaneous classroom problems and/or disabilities, also included those with CBP or CLD and further classroom problems and/or disabilities). For some analyses, we combined the three groups “only CLD”, “only CBP” and “combined CLD/CBP” into one group “CLD and/or CBP”. This was done when analyzing the distinctive effects of CLD and CBP compared to students who did not have disabilities and increased behavior and learning problems in the classroom.

The dependent variable is the social and emotional situation measured first by the sociometric criteria (“*choice as seatmate*”, “*reject as seatmate*”, “*choice as mean*”, “*choice as helpful*”) and second by the values on the scales *feeling of being accepted* by the teacher, *academic self-concept*, and *class climate*. In order to achieve a comparison of the sociometric variables between first graders from different classes, data were standardized at class level ( $M = 0$  and  $SD = 1$ ). The FEES scale values were transformed to T-values ( $M = 50$ ,  $SD = 10$ ) based on the tables of the manual. Due to the unbalanced gender distribution within the group of students with assumed SEN, we computed analyses of covariance with the variable gender as a covariate. After that, referring to the z-standardized status of choice and of rejection, we calculated the distribution of five sociometric status-groups (popular, rejected, controversial, neglected and average), according to Coie and Dodge (1988). Finally, we calculated multilevel analyses of a random slope of the regression from classroom problem (CLD and/or CBP) on social and emotional situation with class and school as level-2 random intercept variables to find differences on both levels. The distribution of effect sizes supports our results.

## **RESULTS**

The results are presented in three parts. To analyze the differences between students with CLD and/or CBP and students without classroom problems and/or disabilities in terms of their social and emotional environment within the class, a t-test, an F-test with gender as covariate, and a distribution of sociometric status-groups were conducted. This is followed by the description of the results of a comparison between students with exclusive CLD and exclusive CBP in the same way as it is mentioned in part one. Finally, the findings from multilevel analyses of a random slope of the regression from CLD and/or CBP on social and emotional situation with both class and school as level-2 random intercept variables were reviewed to analyze the distribution of the social integration of students with CLD and/or CBP across different classes and schools.

**Table 2. Statistical descriptive by classroom problems and/or disabilities group**

Scale	M(SD) Total	M(SD) only CBP	M(SD) only CLD	M(SD) combined CLD/CBP	M(SD) MISC CP and/or D	M(SD) without CP and/or D
choice as seatmate	0.00(0.98)	-0.34(0.84)	-0.36(0.75)	-0.71(0.67)	-0.39(0.80)	0.10(1.00)
reject as seatmate	0.00(0.98)	0.94(1.36)	0.16(0.93)	1.19(1.48)	0.35(1.19)	-0.13(0.85)
choice as mean	0.00(0.98)	1.07(1.53)	-0.14(0.73)	1.19(1.66)	0.24(1.18)	-0.11(0.84)
choice as helpful	0.00(0.98)	-0.36(0.73)	-0.43(0.65)	-0.25(1.04)	-0.4(0.70)	0.10(1.01)
class climate	51(10)	47(12)	51(9)	45(14)	49(10)	51(10)
feeling of being accepted	51(7)	49(8)	50(7)	47(10)	48(8)	52(6)
academic self-concept	50(9)	47(11)	44(11)	47(10)	46(11)	51(8)



**Table 3. Comparison of students with CLD and/or CBP and without classroom problems and/or disabilities**

Scale	<i>M(SD)</i> CLD and/or CBP	<i>M(SD)</i> without CP and/or D	t-test				F-test with gender as covariate				
			<i>d</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>df</i>	<i>F</i>	<i>p</i>	partial eta <sup>2</sup>	<i>d</i> corrected
choice as seatmate	-0.4(0.8)	0.1(1)	-0.6	-9.55	465	<.001	2764	68.2	<.001	0.02	0.31
reject as seatmate	0.6(1.3)	-0.1(0.9)	0.6	10.33	363.8	<.001	2757	163.4	<.001	0.06	0.49
choice as mean	0.6(1.4)	-0.1(0.8)	0.5	8.82	349.9	<.001	2737	130.8	<.001	0.05	0.44
choice as helpful	-0.4(0.7)	0.1(1)	-0.6	-10.36	506	<.001	2765	53.2	<.001	0.02	0.28
integration status	-0.7(1.1)	0.1(1)	-0.7	-12.69	391.7	<.001	2755	175.7	<.001	0.06	0.51
impact	0.2(1.1)	0.0(1)	0.2	3.57	394	<.001	2755	7.6	<.001	0.00	0.11
feeling of being accepted	49(8)	52(6)	-0.4	-6.38	321.1	<.001	2410	51	<.001	0.02	0.29
class climate	49(11)	51(10)	-0.2	-3.95	334.9	<.001	2410	16.8	<.001	0.01	0.17
academic self-concept	46(11)	51(8)	-0.5	-8.44	324	<.001	2410	100.8	<.001	0.04	0.41

Note. CLD and/or CBP = sum of students with “only CLD”, “only CBP”, and “combined CLD/CBP”.

First, in order to gain an overview regarding the applied measures, we summarized the descriptive statistics (see Table 2). All of the following analyses were based on z-values for all sociometric items and t-values for the items of the subjective school experiences.

**Comparison of students with CBP and/or CLD and students without classroom problems and/or disabilities**

In order to compare students with CLD and/or CBP and students without classroom problems and/or disabilities, Table 3 presents results of the conducted t-tests. For all sociometric measures including *integration status* and *impact*, and for the FEES subscales, the mean scores significantly differ ( $p < .001$ ), showing a worse social and emotional situation for children with CLD and/or CBP. According to Cohen (1988), the effect sizes of these differences are of medium size for *integration status* ( $d = -0.7$ ) and *academic self-concept* ( $d = -0.5$ ), low to medium for *feeling of being accepted* ( $d = -0.4$ ), and low for *class climate* ( $d = -0.2$ ) and *impact* ( $d = 0.2$ ). Due to the skewed distribution of gender in the group of students with CLD and/or CBP (see Table 1), a covariance analysis was conducted with gender as covariate. As can be seen in Table 3, the findings for all scales remain stable ( $p < .001$ ). The effect sizes for these analyses were re-estimated based on the partial eta<sup>2</sup> (Cohen, 1988). All corrected effect sizes are lower than before the F-test ( $0.11 \leq d \leq 0.51$ ).

Regarding the sociometric status-groups (see Table 4), we found significant differences in distributions ( $\chi^2(8) = 200.52; p < .001$ ). Students with classroom problems (CLD and/or CBP) were less often *popular* (3% and 16%, respectively) and more often *rejected* (31% and 9%, respectively) than students without classroom problems and/or disabilities. Children with MISC classroom problems and/or disabilities had values closer to the group of students with CLD and/or CBP (5% *popular* and 26% *rejected*). The relative risk for social rejection of children with classroom problems and/or disabilities in inclusive classrooms is thereby 3.4 to 2.9 times higher in comparison to children without classroom problems and disabilities. Students with CLD and/or CBP are more often *controversial* (10% vs. 8%) and less *neglected* (12% vs. 16%).

**Table 4. Sociometric status-group distribution by classroom problems and/or disabilities (in percent)**

	popular	rejected	controversial	neglected	average	total
CLD and/or CBP	3	31	10	12	45	100
MISC CP and/or D	5	26	7	16	47	100
without CP and/or D	16	9	8	16	52	100

**Table 5. Comparison of students with “only CBP” and “only CLD”**

Scale	<i>M(SD)</i> only CBP	<i>M(SD)</i> only CLD	t-test				F-test with gender as covariate				
			<i>d</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>df</i>	<i>F</i>	<i>p</i>	partial $\eta^2$	<i>d</i> corrected
choice as seatmate	-0.3(0.8)	-0.4(0.8)	0.0	0.26	260.3	> .79	1,261	0.0	> .88	.00	0.0
reject as seatmate	0.9(1.4)	0.2(0.9)	0.6	5.49	252.9	< .001	1,262	20.9	< .001	.07	0.6
choice as mean	1.1(1.5)	-0.1(0.7)	0.8	8.44	213	< .001	1,262	44.1	< .001	.14	0.8
choice as helpful	-0.4(0.7)	-0.4(0.6)	0.1	0.9	261.9	> .37	1,262	2.3	> .13	.01	0.2
integration status	-0.9(1.2)	-0.3(0.8)	-0.5	-4.33	256.5	< .001	1,261	13.7	< .001	.05	-0.5
impact	0.5(1.2)	-0.2(0.9)	0.6	5.37	257.1	< .001	1,261	20.2	< .001	.07	0.6
class climate	47(12)	51(9)	-0.3	-2.76	245.5	< .01	1,248	6.0	< .05	.02	-0.3
feeling of being accepted	49(9)	50(7)	-0.2	-1.58	247.1	> .11	1,248	1.6	> .20	.01	-0.2
academic self-concept	47(11)	44(11)	0.3	2.51	242.4	< .05	1,248	6.4	< .05	.03	0.3

**Comparison of students with “only CBP” and “only CLD”**

Next, we compared students with CLD and CBP. The analyses are based on the two groups of students with exclusive CLD (“only CLD”) or exclusive CBP (“only CBP”). As can be seen in Table 5, the two groups differed significantly on various scales. Differences were found for the scales of *reject as seatmate*, *choice as mean*, *integrations status*, *impact* (all  $p < .001$ ), and *class climate* ( $p < .01$ ), all indicating that students with CBP are less socially accepted by their classmates. The corresponding effect sizes were low for the *class climate* ( $d = -0.3$ ), medium for *rejected as seatmate* ( $d = 0.6$ ), *integration status* ( $d = -0.5$ ), and *impact* ( $d = 0.6$ ), and high for *choice as mean* ( $d = 0.8$ ). No significant differences were found for the *choice as seatmate*, *choice as helpful* and the *feeling of being accepted* scales. Regarding the *academic self-concept* scale, we found significant differences ( $p < .05$ ) in the other direction: Students with CLD had a more negative *academic self-concept* compared to their peers with CBP. The effect size of this difference is of low size ( $d = 0.3$ ). For the same reason mentioned above (unbalanced distribution of sex), an analysis of covariance with sex as covariate was performed. The results remained stable, with no substantial differences in effect sizes.

Table 6 depicts the distribution of the sociometric status-groups across students with different classroom problems and/or disabilities. An overall  $\chi^2$  -test reveals significant variations across all groups ( $\chi^2 (16) = 250.06; p < .001$ ). The contrast between students with CLD and CBP was significant ( $\chi^2 (4) = 28.21; p < .001$ ). Although children with CLD and CBP did not differ in the status *popular*, students with CBP had a more relative risk of being *rejected* twice as high (38% vs. 18%). A reversed picture can be seen regarding the distribution of the *controversial* and the *neglected* groups, where students with CLD were three times more often *neglected* (18% vs. 6%) and four times less *controversial* (4% vs. 15%) compared to children with CBP.

**Table 6. Distribution of social status of students with “only CBP” and “only CLD” (in percent)**

	popular	rejected	controversial	neglected	average	total
only CBP	3	38	15	6	38	100
only CLD	3	18	4	18	57	100
combined CLD/CBP	0	47	7	20	27	100
MISC CP and/or D	5	26	7	16	47	100
without CP and/or D	16	9	8	16	52	100

**Social and emotional situation on class and school level**

Finally, differences between children with and without CBP and/or CLD were analyzed for stability across classes and schools within the sample to determine if there were classes and schools with significantly different social exclusion processes.

For this purpose, multilevel analyses were performed with the social-emotional variables as criteria, classroom problems and/or disabilities (dummy coded for CLD and/or CBP vs. without classroom problems and disabilities) as a predictor, and the class (and school, respectively) as a level-2 random intercept variable. Table 7 depicts the results for the analyses with *class* as a level-2 variable. Each row shows the results for one analysis with a different criterion. In each of these analyses, a model assuming an interaction between *class* and classroom problems (a random slope effect) was compared to a model without this interaction. The variables *reject as seatmate*, *choice as mean*, *feeling of being accepted*, and *academic self-concept* interacted significantly with *class*. Table 8 shows the same analyses but with *school* as level-2 random intercept variable. The pattern of results was the same as for class, with *reject as seatmate*, *choice as mean*, *feeling of being accepted*, and *academic self-concept* showing significant interactions.

The results support the hypotheses that there are differential effects that vary across different classes and schools. As a result, *sociometric status*, *feeling of being accepted* by the teacher and *academic self-concept* of students with CLD and/or CBP can be predicted by attributes of the class and the school they are attending.

**Table 7. Multilevel analysis of a random slope of the regression from “CLD and/or CBP” on social and emotional situation with class as a level-2 random intercept variable**

Scale	<i>L</i>	<i>p</i>
choice as seatmate	0.02	>.98
reject as seatmate	25.74	<.001
choice as mean	54.4	<.001
choice as helpful	0.00	>.99
integration status	3.38	>.18
impact	3.96	>.13
class climate	0.79	>.67
feeling of being accepted	13.44	<.01
academic self-concept	15.36	<.001

Note. *L* = Likelihood ratio of a comparison of a model with a random slope effect against a model with only a random intercept effect

**Table 8. Multilevel analysis of a random slope of the regression from “CLD and/or CBP” on social and emotional situation with school as a level-2 random intercept variable**

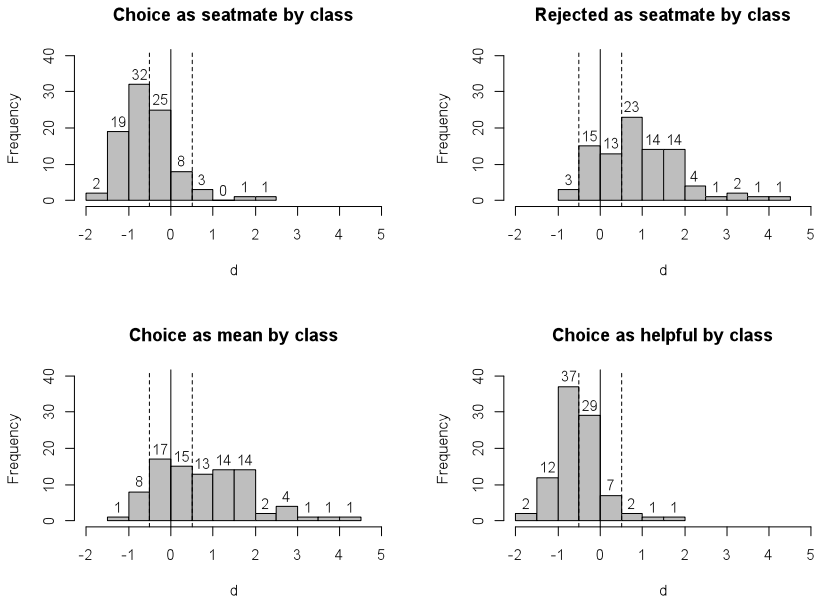
Scale	<i>L</i>	<i>p</i>
choice as seatmate	0.01	>.99
reject as seatmate	7.57	<.05
choice as mean	10.97	<.01
choice as helpful	0.01	>.99
integration status	2.24	>.32
impact	0.02	>.98
class climate	1.43	>.49
feeling of being accepted	9.31	<.01
academic self-concept	9.91	<.01

Figures 1 through 4 display the distributions of the effect-sizes (*d*) with respect to the differences between students with and without classroom problems and/or disabilities (CLD and/or CBP) across classes (Figures 1 and 2) and schools (Figures 3 and 4). Negative effect sizes denote a lower value of this variable for children with CLD and/or CBP whereas positive effect sizes stand for higher values concerning children with CLD and/or CBP. The following analyses took those variables into consideration that showed a significant interaction in the multilevel analysis.

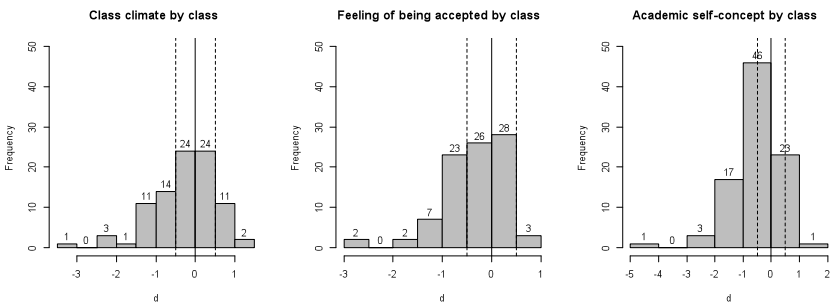
The distribution of the sociometric differences between students with and without classroom problems and/or disabilities shows a higher social rejection of children with CLD and/or CBP based on class. In 60 classes (66.0%), children with CLD and/or CBP are substantially more *rejected as seatmates* ( $0.5 < d \leq 4.5$ ), and in 45 (49.5%) of the classes, children with CLD and/or CBP are more often considered to be mean ( $0.5 < d \leq 4.5$ ). In 34 (37.4%) classes, students with CLD and/or CBP experienced substantially lower *acceptance by their teachers*, and in 41 classes (45.1%), the results demonstrated a worse *academic self-concept* of children with CLD and/or CBP ( $-5.0 < d \leq -0.5$ ).

An analysis regarding the distribution of the subjective social and emotional experiences between students with CBP and/or CLD and without classroom problems and disabilities across different schools revealed the same pattern of results. Students with CLD and/or CBP were more often *rejected as seatmates* in 38 schools (72.0%) and more often *chosen to be mean* in 34 schools (64.2%). Within 17 schools (32.1%), students with CLD and/or CBP felt less *accepted by their teachers*, and in 29 schools (55.0%), they had a worse *academic self-concept*.

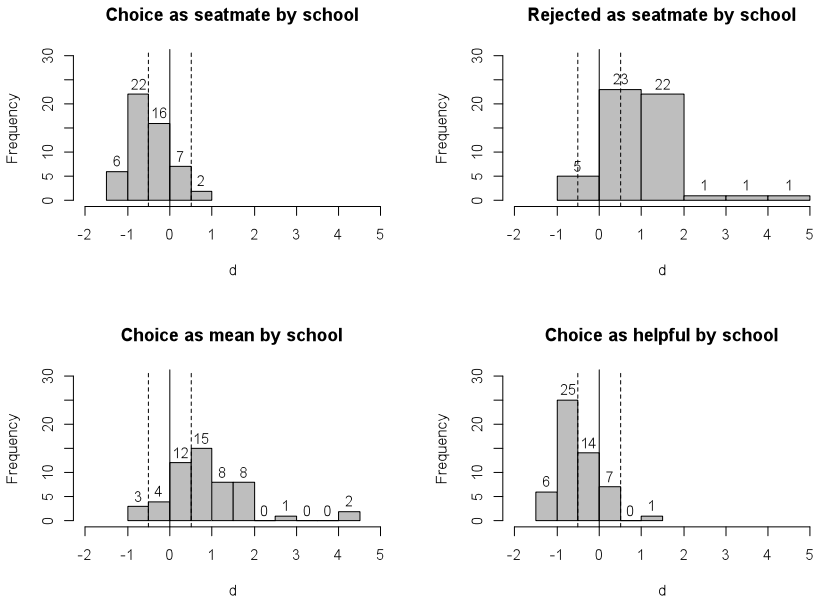
**Figure 1. Distribution of sociometric position of students with “CLD or/and CBP” across different classes.**



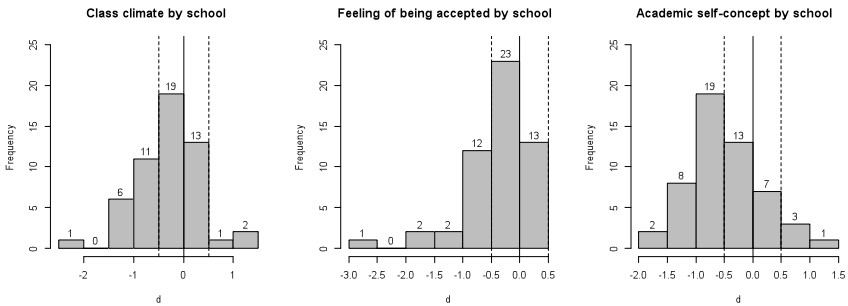
**Figure 2. Distribution of the subjective social and emotional situation of students with “CLD and/or CBP” across different classes.**



**Figure 3. Distribution of sociometric position of students with “CLD and/or CBP” across different schools.**



**Figure 4. Distribution of the subjective social and emotional situation of students with “CLD and/or CBP” across different schools.**





## DISCUSSION

The goals of the present study were to investigate the social and emotional situation of students with CLD and/or CBP compared to their typically achieving classmates, to compare these factors across students with only CLD and only CBP, and to determine whether correlations between classroom problems and the social-emotional situation of students vary across classes and schools.

Results indicated significant differences towards an unfavorable social and emotional situation in school for children with CLD and/or CBP compared to students without classroom problems and/or disabilities. This includes lower sociometric integration status (children with CLD and/or CBP are more often socially rejected and less popular), a more negative academic self-concept, feelings of less acceptance from their teacher, and poorer perceptions of the classroom climate. These findings confirm previous results concerning the risk of social exclusion of children with SEN (Kavale & Forness, 1996; Estell, 2008; Bless and Mohr, 2007; Avramidis, 2010; Huber, 2008). It should be mentioned that the social impact of students with CBP and/or CLD is slightly higher compared to children without classroom problems and/or disabilities. This can be seen as an indication for a higher influence on their classroom environment. This assumption is also confirmed by the results of the distribution of the social status-groups. Children with CLD and/or CBP are more controversial and less neglected than their peers without classroom problems and/or disabilities.

In terms of comparing students with “only CLD” and “only CBP” (second research question), results indicated significantly less social acceptance of students with CBP and whereas children with CLD had a significantly lower academic self-concept. These results are congruent with research conducted by Lindsay (2007), Dyson (2010), Stein and Ellinger (2012), and Kavale and Forness (2000). Because students with CBP are more often rejected as a seatmate, more often chosen as mean, have a worse integration status, and have a higher probability to be in the status-group *rejected*, they can be considered subject to an active social rejection by their classmates. In contrast, children with CLD are less often chosen as seatmate and as helpful and they have a lower probability to be in the status-group *popular*. It seems that students with CLD are more tolerated by their peers and their social rejection is more passive. The increased social impact of students with CBP stresses the idea that children with CBP influence the social situation of a class more compared to their classmates without CBP. Furthermore, from all investigated groups of children, students with CBP have the highest probability to belong to the sociometric status-group *controversial*, which implies both social rejection and social acceptance.

The third research question refers to the social and emotional situation of children with CBP and/or CLD across different classes and schools. Significant variations were found in the correlations of social rejection (student-student-relationship as well as teacher-student-relationship) and classroom problems (CLD and/or CBP) across classes and schools, congruent with research by Huber and Wilbert (2012) and Krull et al. (2014). In the majority of classes and schools, students with CLD and/or CBP felt less accepted by their peers and teachers, and their academic self-concept was more negative. The results regarding the distribution across different schools should be considered with reservations: For some schools, data were only available from one class, causing the influence of classes and schools to be confounded.

Nevertheless, on both levels, there are outliers towards a higher level of social acceptance of children with CLD and/or CBP. They point to the fact that it is possible to minimize social exclusion of students within classes and schools. Further research will have to focus on these best practice examples regarding everyday life at school, composition of classes, classroom management, the social integration of students with different classroom problems and/or disabilities, and the attitudes towards inclusion of teachers and children.

We want to emphasize that our survey deals with only first-grade students, which suggests that even after attending school for a short time, students know whom of their classmates they like most and whom they like least.

The present analyses are based on a cross sectional design. Thus, it is not possible to infer causal relationships between the observed variables. To find an answer to these questions, further research should be based on longitudinal designs and experimental designs should be incorporated focusing on the processes underlying social exclusion such as social referencing and teacher feedback (Chang, 2003, 2004; White & Jones, 2000; Huber, 2011).

Finally, we want to discuss the limitations of our study. It should be noted that our general objective was to give information about the social and emotional experiences of students with perceived CBP and CLD in inclusive classes. We were not primarily interested in students with a standardized diagnostic classification of an emotional-behavioral disorder or a learning disability. For this reason, classroom teachers were asked to indicate whether they assumed one or more of their students had CBP and/or CLD. Contrary to a standardized diagnostic classification, the criteria of these assessments remain unclear. Furthermore, the diagnostic competence of teachers has been called into question in several studies. According to the PISA study carried out by the OECD (2000), teachers underestimate difficulties in literacy (Baumert et al., 2001), and in contrast, Schabmann and Schmidt (2009) found that the proportion of students with dyslexia is often overrated by teachers. Concerning the teachers' subjective diagnosis of an attention deficit disorder (ADD), Berg et al. (1998) and Döpfner (2001) came to same results as Baumert and colleagues (2001).

In order to achieve a better comparability of the students with miscellaneous classroom problems and/or disabilities, it is necessary to develop methods which do not only assess classroom problems and/or disabilities by the subjective opinion of the teacher but also by a screening that is geared to predetermined criteria (not standardized diagnostic appraisal). The new instrument should be economically filled out by one teacher for the whole class and the determined strengths and weaknesses might be the basis for developing, evaluating and updating support plans.

Despite the limitations of the present study, it sets a clear focus on the high risk and early onset of social exclusion of students with CLD and/or CBP in inclusive classrooms. This demonstrates a clear need for action regarding the prevention of social exclusion in general. Preventive measures should not only put the focus on the group of first graders, but on kindergarten and preschool children as well. An early approach to managing on behavioral problems substantially decreases the risks of developing these problems in later school years (Wilson et al., 2003; Sklad et al., 2012).

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