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ABSTRACT

Few studies have addressed the daily practice of applied teacher strategies aimed at facilitating the social participation of students with social-emotional problems or behavioural difficulties (SEBD). In this paper, we present two interlinked studies that address this topic. The main study reports on the development of the Teacher Strategy Questionnaire on Social Participation in the Classroom (TSQ-SPC). We tested the questionnaire's construct validity by performing a second-order confirmatory factor analysis. The follow-up study presents the results of a survey of 163 Dutch general primary education teachers of inclusive classes using a modified version of the TSQ-SPC. It provides insights on the strategies that teachers apply in their daily practice to facilitate positive social participation of students with SEBD. The findings of both studies suggest that general primary education teachers apply a limited repertoire of strategies. Accordingly, there is an urgent need for further research focusing on the development of interventions and revisions of the pre- and in-service teacher development curricula aimed at adequately supporting and preparing general education teachers.

Introduction

A growing emphasis on inclusive education, globally, has led to increasing integration of students with special educational needs (SEN) within general education settings rather than being referred to segregated special education schools. This trend began with the revision of educational policies that followed international declarations such as the Salamanca Statement (United Nations Educational and Scientific Cultural Organisation 1994) and ratification of the UN Convention on the Rights of Persons with Disabilities in 2006. As noted by Bottrell and Goodwin (2011), inclusive education is successfully realised when all students actively participate in school activities and are valued as members of the school community.

In the above description of inclusive education, Bottrell and Goodwin (2011) emphasised the importance of the social dimension of schools, of which one component is social participation. In this paper, we define positive social participation as reciprocal friendships

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between students with SEN and their peers, positive contact and interactions between students with SEN and their peers, acceptance of students with SEN by their peers, and students' self-perception of acceptance by their peers (Koster et al. 2009, 135).

Multiple studies have confirmed that students with social-emotional problems or behavioural difficulties (SEBD) experience difficulties with establishing a positive social participation in the general classroom (Pijl, Frostad, and Flem 2008; Ruijs, Peetsma, and van der Veen 2010). In line with Dutch national policies, we define students with SEBD as individuals with different kinds of social-emotional difficulties and behavioural problems, as identified by their teachers or through formal assessments (Appropriate Education Act [wet passend onderwijs] 2012).

Studies have shown that students with SEBD are less accepted and have fewer friends than their typically developing (TD) peers (Avramidis 2013). They also have fewer interactions with their peers (Henke et al. 2017), and their self-perception of acceptance is significantly lower than that of their TD peers (Bossaert et al. 2012). In light of the definition of positive social participation formulated by Koster et al. (2009), these studies indicate that students with SEBD are more likely to experience a poor social participation compared with that of their TD peers. Considered the risk factors for negative academic outcomes, such as early school dropout, and negative social-emotional outcomes, such as criminality and depression, poor social participation is evidently a matter of concern (Kauffman and Landrum 2012; Thompson and Morris 2016).

Several studies have reported that facilitating positive social participation of all students within an inclusive classroom is a challenging task for general education teachers (Ruijs, Peetsma, and van der Veen 2010; Bossaert et al. 2012). In particular, general education teachers indicate that they experience the most problems with including and facilitating a positive social participation of students with SEBD (De Boer et al. 2012b; Schwab et al. 2015). To support teachers in this respect, a substantial body of educational literature has been produced (e.g. Pianta and Hamre 2009). Important themes within this literature relating to teachers' facilitation of students' social participation are described below.

Prominent theories, such as self-determination theory (Deci and Ryan 1986) and attachment theory (Pianta 1999) emphasise the importance of *emotional support* extended by teachers to all students. The findings of empirical studies suggest that general education teachers could apply structured social and instructional strategies to facilitate students' positive social participation (Almog and Shechtman 2007). Other examples within the literature on teachers' strategies include seeking and acquiring *support* within the school team (Botha and Kourkoutas 2016), promoting *parental involvement* (Abrams and Gibbs 2002), promoting positive *teacher-student relationships* (Pianta, Hamre, and Allen 2012), construct *individual education plans* for students (Tod 1999) and teachers' own *professionalisation* (Florian 2008). Other studies underscore the importance of daily *contact and interactions* with each student to enable them acquire *acceptance* and establish *friendships* (Frostad and Pijl 2007) and realise a realistic *social self-perception* (Bossaert et al. 2012; Henke et al. 2017). Contact and interactions can be stimulated by applying forms of cooperative learning (Odom, McConnell, and Chandler 1993), for instance peer tutoring (Kamps et al. 2002) or interventions such as the 'Circle of Friends' approach (Frederickson and Turner 2003).

The abovementioned studies attest to a considerable body of research on teachers' strategies, including those aimed at facilitating students' positive social participation within

regular classrooms. However, this literature reveals several shortcomings. First, although several meta-analyses have been conducted that focus on teachers' strategies within inclusive classrooms, few studies have focused simultaneously on teachers' strategies facilitating the social participation of students with SEBD (Evans, Harden, and Thomas 2004). In addition, limited attention has been given to teachers' strategies that primarily focus on facilitating one or more of the elements of the social participation of students with SEBD (Garrote, Dessemontet, and Opitz 2017), a tendency which contradicts the definition of social participation by Koster et al. (2009). In addition, most studies have focused on alleviating disruptive behaviour (Durlak, Weissberg, and Pachan 2010; Cooper 2011) and do not include teachers' strategies for facilitating social participation (Evans, Harden, and Thomas 2004; Cooper 2011). In a recent study, De Leeuw, De Boer, Bijstra & Minnaert (2018) developed a conceptual model for teachers' strategies facilitating the social participation of students with SEBD based on teacher strategies proposed during focus group discussions (FGDs). Two categories of teacher strategies, namely social participation and pre-conditional strategies are distinguished in this conceptual model. Social participation strategies are aimed at directly optimising students' social participation, for example through peer tutoring. By contrast, pre-conditional strategies, such as good parental contact, influence students' social participation indirectly. However, whether or not this conceptual model of teacher strategies can be applied within inclusive classrooms remains unclear.

Second, studies have found that teachers apply a one-size-fits-all approach that is not differentiated in relation to students' needs (Ferguson 2008). Conversely, a few studies have shown that general education teachers do in fact apply differentiated strategies for students (e.g. Brophy and McCaslin 1992; Cooper 2011). The findings of these studies are in line with the premise that students with different types of SEBD, who have different characteristics and needs, would not benefit from one-size-fits-all approaches (Mooij and Smeets 2009).

Based on the cited literature, it can be concluded that little is known about what general education teachers do in regular classrooms to facilitate the social participation of students with SEBD. Evidently, teachers need to be are aware of their influence on students' social participation in the classroom and consequently acquire knowledge about effective teacher strategies. These insights can be used to promote the social participation of students with and without SEBD in regular classrooms. However, a reliable and valid psychometric instrument that can be used to measure teachers' strategies is critical for acquiring this knowledge.

The two related studies presented in this paper were aimed at overcoming the abovementioned shortcomings in the literature. Specific objectives were (1) to develop a questionnaire on teacher strategies entailing appropriate psychometric properties (i.e. construct validity and reliability), and (2) to identify and describe strategies that teachers apply on a daily basis. The main study focused on the development and evaluation of an instrument for assessing teachers' strategies to facilitate the social participation of students with SEBD within general education contexts. The instrument, which was derived from a study by De Leeuw et al. (2018), incorporated both social participation and pre-conditional strategies.

In the follow-up study, a modified version of the instrument was applied to determine which teacher strategies are applied to facilitate the social participation of students with SEBD by general education teachers in the Netherlands.

Main study methodology

The main study builds on the results of a qualitative study conducted by De Leeuw et al. (2018). For this study, FGDs were conducted with general and special education teachers to gain insights into which teacher strategies are recommended by teachers themselves to facilitate the social participation of students with SEBD. A total of 244 teacher strategies were compiled. Following the conduct of content analysis, this number was reduced to 44 strategies, which were subdivided into two categories: social participation strategies and pre-conditional strategies. Based on an analysis of the FGDs, De Leeuw et al. (2018) constructed a conceptual model of teacher strategies for promoting social participation (TS-SP). Although the TS-SP model could be interpreted as a hierarchical conceptualisation of interwoven sub-categories, the authors do not explicitly mention this (Figure 1).

Instrument

The Teacher Strategy Questionnaire addressing Social Participation in the Classroom (TSQ-SPC) was developed to measure what general education teachers do to facilitate the social participation of students with SEBD. This questionnaire was formulated based on 44 teacher strategies compiled by de Leeuw et al. (2018). The wording of the
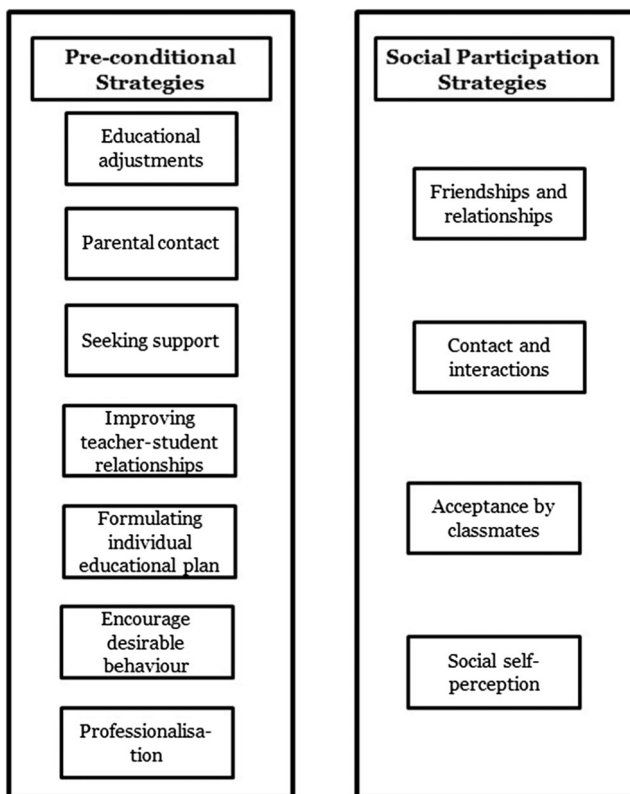

Figure 1. Teacher strategies for social participation model. Note. See the italic printed concepts of the TS-SP model in the introduction for theoretical justification. (Source: De Leeuw et al. 2018).

teacher strategies was adjusted slightly to ensure appropriate use within questionnaire items. To adhere to the TS-SP model, no new items were added. In addition, the cases provided during the FGDs were used to construct four vignettes, each representing a fictitious student with one of the following types of SEBD: aggression, autistic behaviour, hyperactive/attention problems or anxiety. The use of vignettes has several advantages: they stimulate respondents' recall (Huebner 1991), provide a contextual framework (Finch 1987) and consequently increase the internal validity of a study (Huebner 1991).

The TSQ-SPC is a self-reporting digital questionnaire that commences with the recording of active consent followed by a set of background questions. Subsequently, a randomly assigned vignette (see Appendix A) is introduced along with the request to rate the items (teachers' strategies) in terms of their perceived effectivity for the fictitious student. The effectivity of the strategies is rated using a 4-point Likert scale (1 = 'barely effective', 2 = 'somewhat effective', 3 = 'rather effective' and 4 = 'very effective'). The order of items for rating starts with 21 items on social participation strategies followed by 23 items on pre-conditional strategies. Table 1 presents some examples of TSQ-SPC items for each sub-category.

Recruitment procedure

In light of previous reports on the development of questionnaires for school staff, we expected a non-response rate of at least 75% (De Boer et al. 2012a; Koster et al. 2009). For this reason, we selected a large sample of mainstream primary education schools in the Netherlands ($N = 500$) extracted from the records of the Ministry of Education. Our selection criterion was that a school had to have at least two students with a personal bound budget for SEBD on October the first, 2014 (Education Executive Agency, DUO [Dienst Uitvoering Onderwijs] 2014). All of the selected schools received an invitation letter to participate in the survey containing a link to the digital questionnaire. Because of the low response rate ($N = 21$), convenience sampling was applied to continue recruiting respondents, and the questionnaire was promoted in a teachers' magazine and on social

Table 1. Examples of items in the questionnaire.

Category	Sub-category	N items	Examples of items
Social participation strategies	Friendships and relationships	1	Creating game situations at the playground, where there are clear (game) rules
	Contacts and interactions	3	Peer tutoring within the group
	Acceptance by peers	7	Apply a classroom wide complimenting system
	Social self-perception	10	Discuss the behaviour that is expected of the student
Pre-conditional strategies	Collegial support	3	Ask for advice in a team meeting or collegial consultation
	Educational adjustments	6	Visualising the daily classroom structure with pictograms
	Contact with parents	4	Setting up an individual education plan together with parents
	Teacher-student relationship	3	Try to gain the student's trust
	Formulating an individual education plan	2	Make concrete agreements about the number of times that a student can approach you
	Stimulating desirable behaviour	2	A short time-out given outside the classroom
	Professionalization	3	Broadening your knowledge by reading literature about the students type of SEBD

media sites (e.g. Facebook). To further improve the response rate, a raffle of four e-readers for fully completed questionnaires was organised. The questionnaire response period extended from September 2015 till January 2016 and yielded 104 questionnaires, of which 102 were fully completed. The two incomplete questionnaires, in which only the background questions and rating of social participation strategies were answered, were included in the sample.

Analyses

To test the psychometric properties (validity and reliability) of the TSQ-SPC, first- and second-order confirmatory factor analyses (CFAs) were performed using LISREL, version 8.80 (Jöreskog and Sörbom 2007) to determine the model's fit based on the data compiled from the questionnaires. This type of CFA can be used to test the feasibility of latent and higher-order factors. CFA allows for not only model fit testing but also indicates how model fit can be improved through the inclusion of modification indices (Brown 2015). Fully constrained models were used for the CFAs, in which all factor loadings were constrained so as to be equal across the sub-categories and fixed at a value of zero. To verify the structure of the data, a maximum likelihood estimation was performed with robust standard errors. Separate estimates were conducted for the social participation and pre-conditional strategies to ensure reliability.

When evaluating the CFA model fit, we considered the ratio of chi-square degrees of freedom, with a χ^2/df ratio ≤ 2 as a good fit (Byrne 2012). The ratio χ^2/df is less sensitive to group size and departures from the normality, than a chi-square or P-values (Wheaton et al. 1977). Other measurements that were considered to assess the model fit were the root mean square error of approximation (RMSEA) with values of $\geq .80$ deemed a reasonable fit (Browne and Cudeck 1992), and an incremental fit index (IFI) of $\geq .90$ was considered acceptable (Bollen 1989). The construct reliability (CR) was calculated for each latent construct. This measurement is less biased than that of Cronbach's alpha coefficient and a value above .60 was considered acceptable (Geldhof, Preacher, and Zyphur 2014).

Results of the main study

Respondents

The descriptive statistics for respondents in the main study were obtained for 104 general education and SEN teachers. The respondents were predominantly female (90.4%), with a mean age of 40.87 years ($SD = 11.23$, range = 23–63), and 94.2% of the respondents were employed in the general primary education sector. Almost half of the respondents worked as general education teachers (54.8%), 22% worked as SEN teachers and 25% had another occupation in addition to their teaching job.

Validity and reliability of the TSQ-SPC

Social participation strategies

The first CFA estimation conducted for social participation strategies was based on the four constructs of social participation derived from Koster et al. (2009), which are

equally represented in the four social participation categories in the TS-SP model formulated by De Leeuw et al. (2018). The first estimation was conducted with a first-order four-factor model, with parameters fixed at zero. The results of this CFA were: $\chi^2(df)$ = 323.317 (183), p < .001, χ^2/df = 1.77, IFI = .922, RMSEA = .081 (90% CI .065–.097) and Model AIC = 402.939. After inspecting the model modification indices, we removed the 'friendships and relationships' factor from the first order. Other modification indices at the item level were to set free based on error terms. The error terms indicated that there were correlating items overlapping in their wording or the meaning of two different words overlapped. For example, items A.1 and A.6 both used the term 'tutor system'. Item SS.11, which stated 'you use methods such as the emotion scale to gain more insights into the feelings of the student' was disqualified because there was no variance for this item.

The alternations resulted in a three-factor first-order CFA (Figure 2). The final model fit entailed the following specifications: $\chi^2(df)$ = 287.414 (164), p < .001, χ^2/df = 1.75, IFI = .924, RMSEA = .084 (90% CI .065 – .100) and Model AIC = 374.573 (see Appendix B for the correlation matrix). The final estimation's RMSEA value of .084 indicated that this model is close to a reasonable fit (Browne and Cudeck 1992). Table 2 shows the estimated disattenuated correlations between the three latent factors in the model of social participation.

Table 3 shows the factor loadings, means and standard deviations for each questionnaire item and the CR of each construct. The descriptive statistics indicate that most of the items relating to the social self-perception construct were perceived to be effective.

Note: CI = Contact and interactions, A = Acceptance by peers, SS = Social self-perception
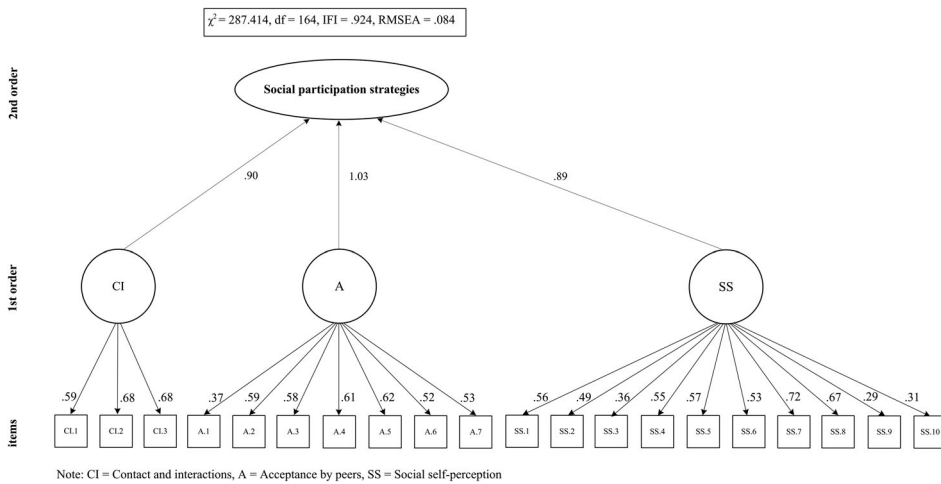
Figure 2. Final model fit for CFA estimation of social participation strategies (n = 104).

Table 2. Estimated disattenuated correlations between first-order latent factors relating to social participation strategies.

	1	2	3	4
Contact and interactions	1.00			
Acceptance by peers	.93	1.00		
Social self-perception	.79	.92	1.00	
Social participation	.90	1.03	.89	1.00

Table 3. Factor loadings and descriptive statistics for items on social participation.

Item	Contact and interactions	Acceptance by peers	Social self-perception	Mean (SD)
CI.1	.594			2.78 (.85)
CI.2	.680			2.75 (.86)
CI.3	.677			3.00 (.72)
A.1		.368		2.13 (.78)
A.2		.592		2.84 (.90)
A.3		.579		2.88 (.77)
A.4		.613		2.87 (.78)
A.5		.624		2.86 (.86)
A.6		.515		2.44 (.85)
A.7		.531		3.44 (.69)
SS.1			.564	3.41 (.72)
SS.2			.488	3.06 (.76)
SS.3			.355	3.20 (.76)
SS.4			.545	3.56 (.62)
SS.5			.574	3.02 (.81)
SS.6			.538	2.83 (.86)
SS.7			.715	3.19 (.79)
SS.8			.667	3.18 (.62)
SS.9			.292	3.12 (.72)
SS.10			.313	2.48 (.95)
CR (> .6)	.688	.714	.778	

Item A.7, stating 'You ensure a safe atmosphere within the group to have open conversations' was rated by respondents as the most effective item, with one of the smallest standard deviations. All of the values exceeded the suggested CR value of .60. The 'acceptance by peers' and 'social self-perception' constructs exceeded the threshold, both with values above .70, indicating high internal consistency for these constructs (Geldhof, Preacher, and Zyphur 2014).

Pre-conditional strategies

The first CFA estimation on the pre-conditional strategies was based on the seven categories of these strategies derived from the TS-SP model (De Leeuw et al. 2018). The estimation was performed as a seven-factor first-order model, with all parameters fixed at zero: $\chi^2(df) = 474.152$ (223), $p < .001$, $\chi^2/df = 2.13$, IFI = .874, RMSEA = .102 (90% CI .089 – .116) and Model AIC = 567.259. An examination of the model modification indices in LISREL revealed several stress points in the model. Among these points were two first-order factors, namely 'stimulate desirable behaviour' and 'formulate an individual educational plan'. Following Thurstone's (1947) theorem, these factors were removed. The other stress points indicated that the error term between the items CP.2 and CP.4 needed to be set free as a result of the items' overlap relating to having a dialogue with the parents.

Figure 3 shows the final model fit. The five-factor, first-order CFA resulted in the following model fit specifications: $\chi^2(df) = 211,447$ (129), $p < .001$, $\chi^2/df = 1.64$, IFI = .921, RMSEA = .080 (90% CI .060 – .099) and Model AIC = 295.477 (see Appendix C for the correlation matrix). The RMSEA value of .077 in the final run indicates that this model entailed a reasonable fit with the sample of respondents (Browne and Cudeck 1992). Table 4 provides the estimated disattenuated correlations for the model of pre-conditional strategies entailing five latent factors.

Table 5 shows the factor loadings, means and standard deviations for each item and the CR of each construct. The descriptive statistics indicate that the ratings of the 'contact with
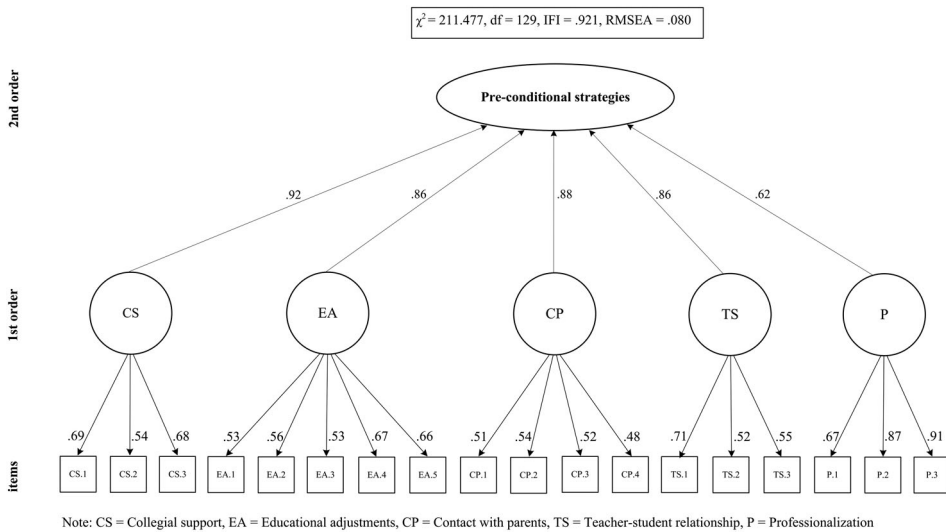
Figure 3. Final model fit for CFA estimation of pre-conditional strategies (*n* = 102).

Table 4. Estimated correlations between first-order latent factors relating to pre-conditional strategies.

	1	2	3	4	5	6
Collegial support	1.00					
Educational adjustments	.79	1.00				
Contact with parents	.82	.76	1.00			
Teacher-student relationship	.79	.74	.76	1.00		
Professionalisation	.58	.54	.55	.54	1.00	
Pre-conditional strategies	.92	.86	.88	.86	.62	1.00

Table 5. Factor loadings and descriptive statistics for pre-conditional items.

Item	Collegial support	Educational adjustments	Contact with parents	Teacher-student relationship	Professio-nalization	Mean (SD)
CS.1	.694					3.15 (.71)
CS.2	.541					3.16 (.84)
CS.3	.681					3.04 (.86)
EA.1		.525				3.54 (.75)
EA.2		.564				2.17 (.90)
EA.3		.529				2.40 (.89)
EA.4		.674				3.22 (.82)
EA.5		.656				2.95 (.89)
CP.1			.513			3.09 (.76)
CP.2			.539			3.69 (.53)
CP.3			.523			3.18 (.78)
CP.4			.478			3.60 (.62)
TS.1				.705		3.21 (.76)
TS.2				.522		3.71 (.52)
TS.3				.548		3.88 (.32)
P.1					.669	2.67 (.86)
P.2					.868	2.67 (.86)
P.3					.907	2.91 (.77)
CR (> .6)	.676	.728	.589	.620	.860	

parents' and 'teacher-student relationship' constructs almost reached the 'very effective' level. The 'collegial support' and 'teacher-student relationship' constructs had values above .60, thus exceeding the threshold, and the 'educational adjustments' and 'professionalisation' constructs also exceeded the threshold with values above .70, indicating that the internal consistency of these four constructs was sufficient or even high. The 'contact parents' construct, with a CR of .589, was marginally below the threshold.

Conclusions of the main study and modification of the TSQ-SPC

The aim of the main study was to develop an instrument and evaluate the psychometric properties of the TSQ-SPC questionnaire using the teachers' strategies from the FGDs by De Leeuw et al. (2018). The results of the CFAs indicated that the questionnaire had good construct validity, as revealed by the model fit indices. All values of the first- and second-order factors in the best fitting models were significant. The construct reliability of the questionnaire's sub-scales ranged from marginally sufficient to high, with CR values ranging between .589 and .860 (Geldhof, Preacher, and Zyphur 2014). The results of this study indicate that the TSQ-SPC is a reliable instrument for assessing the perceived effectiveness of teachers' strategies for facilitating the social participation of students with SEBD.

The following two recommendations, which are based on the results of this study, are aimed at improving the TSQ-SPC for future use:

- *Wording of items.* In light of the suggested model modification indices derived from the CFA, the wording of some of the items should be reformulated. The respondents' feedback on framing the strategies as statements composed of complete sentences should be considered.
- *Classroom practice.* Although the use of vignettes has some advantages, it yielded minimal insights on what teachers actually do in their classrooms. We therefore recommend the removal of vignettes and the use of teachers' ratings of strategies that relate to their own students with SEBD.

Follow-up study methodology

Our aim in the follow-up study was to acquire insights into what general education teachers do in their classrooms to facilitate the social participation of students with SEBD.

Instrument

An adapted version of the TSQ-SPC was administered. The TSQ-SPC began with a set of questions on the teachers' backgrounds. Subsequently, respondents were asked to indicate if they currently had one or more students with SEBD in their classrooms. A description of SEBD was provided via four short descriptions of primary education students with different characteristics of SEBD. Next, the respondents were requested to indicate whether they applied the strategies described in the items, choosing one of the 'yes', 'no' or 'not possible' responses. Only items that were applied entailed follow-up questions to rate them in terms of the frequency of their application and perceived effectiveness. The

frequency of application was rated using a 3-point Likert scale (1 = 'from time to time', 2 = 'once or several times a week' and 3 = '(almost) daily'). The perceived effectiveness of the item was rated using a 4-point Likert scale (1 = 'barely effective', 2 = 'somewhat effective', 3 = 'rather effective' and 4 = 'very effective'). Figure 4 provides an overview of the questionnaire design, and Table 6 provides examples of items in the TSQ-SPC.

Recruitment procedure

In light of our previous experiences with the main study, we recruited respondents via an online convenience sample. The questionnaire was accessed digitally via social media (e.g. Facebook and LinkedIn) between March 2017 and July 2017.

Respondents

The descriptive statistics of the respondents were compiled from questionnaires filled in by 184 teachers. Of the respondents, 156 completed the questionnaire. The mean age of the
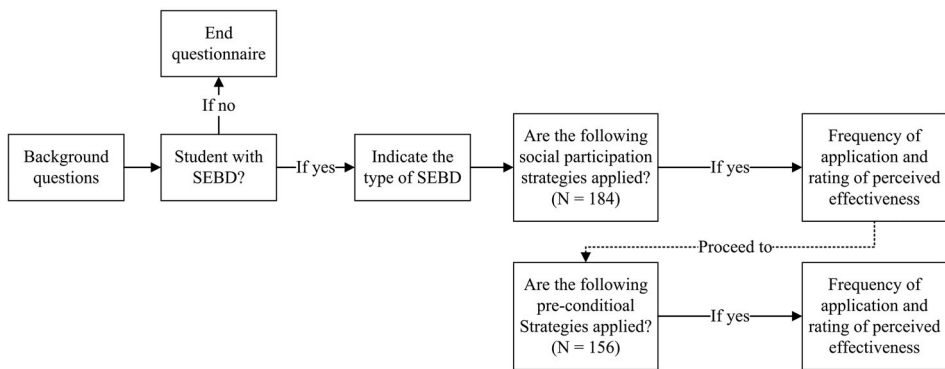
Figure 4. Questionnaire design.

Table 6. Examples of items from the modified questionnaire.

Category	Sub-category	N items	Examples of items
Social participation strategies	Contacts and interactions	3	There is a buddy system in the classroom.
	Acceptance by peers	7	You apply a classroom wide complimenting system.
	Social self-perception	10	You discuss the student's behaviour on the basis of video recordings of the student.
Pre-conditional strategies	Collegial support	3	You ask for advice during team meetings or consultations with colleagues.
	Educational adjustments	5	You use daily routine cards to structure play and playtime/recess.
	Contact with parents	4	You draw up an individual action plan for in the classroom in consultation with the student's parents.
	Teacher-student relationship	3	You actively work on the relationship of trust between you and the student.
	Professionalisation	3	You broaden your knowledge by reading literature about your student's social and behavioural issues.

respondents was 39.82 years ($SD = 11.7$, range = 21–65 years). The mean teaching experience of the respondents was 15.1 years ($SD = 11.2$, range = 0–43 years). Most teachers worked as general education teachers (86.4%), with 6.5% of the respondents reporting an occupation as SEN teachers or another occupation (7.1%), in addition to their teaching jobs. The distribution of SEBD types was as follows: autistic behaviour ($N = 81$), hyperactive/attention problem, ($N = 66$), aggressive behaviour ($N = 25$) and anxiety ($N = 6$).

Preliminary results for the TSQ-SPC

The distribution of respondents in relation to the sub-scales for social participation strategies revealed that 75 respondents applied all items belonging to 'contact and interaction', whereas only 5 respondents applied all items belonging to 'acceptance by peers', and 2 respondents applied all ten items belonging to 'social self-perception'. Numbers of respondents who applied all items on sub-scales for the pre-conditional strategies were higher. Thus, the numbers of respondents who applied all items under 'contact with parents', 'teacher-student relationship', 'college support' and 'professionaliation' were: 76, 64, 63, and 36, respectively. However, only 10 respondents applied all items belonging to 'educational adjustments'.

Analysis

Because of the insufficiency of responses for each sub-scale of the TSQ-SPC, valid sub-scale scores could not be calculated. Hence, we decided to develop a rule of thumb for reporting which teacher strategies were applied by the teachers to facilitate the social participation of students with SEBD. Accordingly, we applied the following rule of thumb proposed by Boer, Pijl, and Minnaert (2011) to the 4-point Likert-scale rating of the frequency of application: a mean score < 2 was low (-), a score of 2–3 was average (+/-), and > 3 was high (+). For the 3-point Likert scale rating of perceived effectiveness, the following rule of thumb was applied: a mean score < 1.66 was low (-), 1.67–2.33 was neutral (+/-) and > 2.33 was high (+).

Results of the follow-up study

Table 7 presents valid percentages of the applied items, followed by the rule-of-thumb interpretations of mean scores per item for frequency of application and perceived effectiveness.

The results for the items on social participation strategies indicated that within the 'acceptance by peers' sub-scale, the items A.1 'You make classroom agreements about desired social behaviour', and A.4 'You apply lessons focused on socio-emotional development', were applied frequently. By contrast, within the same sub-scale, items A.2 'There is a class-transcending peer tutor system' and A.6 'There is a peer tutor system within the classroom for tasks' were used the least. The ratings for frequency of application and perceived effectiveness clearly demonstrate that regardless of whether the frequency of application was low, average or high, the perceived effectiveness remained neutral. Only item A.7 'You ensure an open atmosphere for conversations within the classroom' was perceived as effective for facilitating social participation in the classroom. It is noteworthy

Table 7. Ranking of social participation strategies used by teachers as valid percentages.

Sub-scale	Item	Short description	Applied N = 184 Yes (%)	Frequency of appliance[a] Rule of thumb[c]			Perceived effectiveness[b] Rule of thumb[d]		
				-	+/-	+	-	+/-	+
Contact and interaction	Cl.1	Cooperative group-determined methods	95.1		X			X	
	Cl.2	Buddy system in the classroom	48.4			X		X	
	Cl.3	Classical games or activities	96.2		X			X	
Acceptance by peers	A.1	Classroom agreements on social behaviour	100		X			X	
	A.2	Class-transcending peer tutor system	11.4			X		X	
	A.3	Socio-emotional role-play	60.3	X				X	
	A.4	Socio-emotional lessons	95.1		X			X	
	A.5	Classical system of complimenting	60.9			X		X	
	A.6	Peer tutor system in the classroom	17.9			X		X	
	A.7	Open atmosphere for conversations	98.4			X			X
Social self-perception	SS.1	Talk with the student about his/her needs	97.8		X			X	
	SS.2	Evaluate student's goals	72.3		X			X	
	SS.3	Discuss expected behaviour with the student	96.7			X		X	
	SS.4	Address positive student behaviour	99.5			X		X	
	SS.5	Talk about the effect of the student's behaviour	95.7		X			X	
	SS.6	Use special methods to gain insights into the student's feelings	23.4		X			X	
	SS.7	Apply modelling of expected behaviour	85.3			X		X	
	SS.8	Practise and address social skills during play	73.9		X			X	
	SS.9	Stimulate the student's socio-emotional skills	96.2			X		X	
	SS.10	Talk with the student about his or her behaviour using video recordings	97.8	X				X	

Notes: [a,b]The number of responses per item ranged between 7 and 168.
[c]< 2 = low (-), 2–3 = average (+/-), > 3 = high (+).
[d]< 1.66 = low (-), 1.67–2.33 = neutral (+/-), > 2.33 = high (+).

that the two items entailing peer tutor systems, were not applied often by the respondents. When these two strategies were applied, the frequency of their application was high and their perceived effectiveness was neutral. The results show that although almost every respondent used video recordings of students' behaviour to discuss their behaviour (item SS.10), the ratings for the frequency of application and effectiveness for this strategy was low and neutral, respectively.

Table 8 shows that although the items on pre-conditional strategies were applied by almost all respondents, the ratings for overall frequency of application and perceived effectiveness were also low and neutral, respectively. The strategies in the items for 'educational adjustments' were frequently applied but perceived to have a neutral effect regarding facilitation of social participation. Only strategies in items TS.2, namely 'You adopt a calm attitude towards the student', and TS.3, 'You actively work on building a relationship of trust with the student', from the 'teacher-student relationship' sub-scale were used frequently and perceived as effective in facilitating social participation.

Conclusions of the follow-up study

Our aim in conducting this follow-up study was to gain insights into what general education teachers actually do in their classrooms to facilitate the social participation of students with SEBD. Accordingly, we compiled data on the frequency of application and perceived effectiveness of teacher strategies using a modified TSQ-SPC questionnaire.

When analysing the results of the application of strategies described in the TSQ-SPC items, some difficulties emerged because of significant variations in responses. It was not possible to calculate valid sub-scale scores. In general, the results of the follow-up study indicated that the respondents did not apply a wide range of strategies in practice, and they barely applied the social participation strategies. These findings are in line with those of Odom, McConnell, and Chandler (1993).

To interpret responses based on the Likert scales, rules of thumb were applied for rating the frequency of application and perceived effectiveness of strategies. In conclusion, regardless of whether the frequency of application was low, average, or high, the perceived effectiveness of the social participation strategies described in the items was neutral. Further, a large number of pre-conditional strategies described in the items were applied, but not very frequently. These items were perceived as having a low impact in facilitating the social participation of students with SEBD.

General discussion

This paper has presented two studies aimed at developing an instrument for teacher strategies aimed at facilitating the social participation of students with SEBD and evaluating its psychometric properties. The results and conclusions of the main study indicated that there were strong correlations between the 'contact and interactions', 'acceptance by peers' and 'social self-perception' sub-categories with the main category of 'social participation'. This finding implies that the sub-categories are highly interwoven and, therefore, closely related. Other empirical studies have demonstrated this complexity of sub-categories (e.g. Koster et al. 2011). The results of the main study did not support the definition of social participation entailing four sub-categories, as defined by Koster et al.

Table 8. Ranking of pre-conditional strategies used by teachers as valid percentages.

Sub-scale	Items	Short description	Applied N = 156 Yes (%)	Frequency of appliance[a] Rule of thumb[c]			Perceived effectiveness[b] Rule of thumb[d]		
				-	+/-	+	-	+/-	+
Collegial support	CS.1	Ask for collegial advice or consultations	98.7	X				X	
	CS.2	Identify student's problem in consultation with external professional	78.3	X				X	
	CS.3	Approach used for students agreed at the team level	55.3	X				X	
Educational adjustments	EA.1	Use methods encouraging independent work	37.2			X		X	
	EA.2	Clear agreement on how many questions the student can ask	49.4		X			X	
	EA.3	Consistent use of rules and agreements	94.9			X		X	
	EA.4	Use daily routine cards to create a structure	50.6			X		X	
	EA.5	Reduce stimuli	80.8			X		X	
Contact with parents	CP.1	Call for external assistance at home	73.1	X				X	
	CP.2	Find a classroom solution	90.4	X				X	
	CP.3	Design an action plan	73.7	X				X	
	CP.4	Keep parents informed	96.8	X				X	
Teacher-student relationship	TS.1	Observe teacher-student interactions	49.3	X				X	
	TS.2	Calm attitude towards student	100			X			X
	TS.3	Build a trust relationship	99.3			X			X
Professionalisation	P.1	Broaden knowledge by following a course	33.6	X				X	
	P.2	Broaden knowledge by searching the Internet	75	X				X	
	P.3	Broaden knowledge by reading the literature	74.3	X				X	

Notes: [a,b] The number of responses per item ranged between 43 and 136.
[c] < 2 = low (-), 2–3 = average (+/-), > 3 = high (+).
[d] < 1.66 = low (-), 1.67–2.33 = neutral (+/-), > 2.33 = high (+).

(2009), because of limited available items for 'friendships and relationships'. This is in line of Thurstone's (1947) theorem on limited items, we had to remove the 'friendships and relationships' sub-category as there was only one item on this category. No additional items were added when developing the TSQ-SPC so as to adhere as far as possible to the inputs from the FGDs reported by De Leeuw et al. (2018). We recommend developing the 'friendships and relationships' sub-scale by drawing on empirical studies on teacher strategies relating to peer relations, for example on seating arrangements (Gest and Rodkin 2011), within the literature. This would enable all categories of social participation, as defined by Koster et al. (2009), to be assessed using the TSQ-SPC.

These recommendations for the further development of the TSQ-SPC also apply for the two sub-scale 'stimulate desirable behaviour' and 'formulate an individual educational plan' that were removed from the CFA analyses of the main category of 'pre-conditional strategies'.

The follow-up study was aimed at acquiring insights into what Dutch general education teachers actually do in their teaching practice. A first unexpected finding was that very few teachers applied all of the described teachers' strategies. This finding is worrisome, as it seems to indicate that teachers do not engage extensively in facilitating students' social participation. Because of limited usage of teachers' strategies, it was not possible to calculate sub-scale scores, and a rule of thumb was applied to enable data interpretation. The second unexpected finding was that well-known and effective strategies, such as buddy systems (Kamps et al. 2002), were rarely applied by the respondents. This is surprising as the Dutch government has been promoting the use of evidence-based practices (Education Council [Onderwijsraad] 2006). One explanation for this is that teachers require collegial support and facilitation to enable them to apply these systems, which are time-consuming to implement efficaciously (Odom, McConnell, and Chandler 1993).

Our aim was to examine whether there were differences in the application of strategies for addressing the four types of SEBD. Teachers were free to choose a 'real life' student when completing the questionnaire, and the results revealed that few respondents chose students with anxiety problems. One explanation for this result could be that excessive shyness is perceived as the least problematic type of student behaviour, whereas lack of concentration is perceived as the most problematic type of behaviour (Poulou and Norwich 2000). This finding does not imply, however, that behavioural problems such as lack of concentration are of greater concern to teachers; it only suggests that these behaviours attract the attention of more teachers.

Limitations and recommendations for future research

The studies also had some limitations. One disadvantage of using a questionnaire is that insights relate to teachers' perspectives. Poulou and Norwich (2000) and Almog and Shechtman (2007), among others, found that there were discrepancies between teachers' strategies, as applied or as preferred in responses in a questionnaire, and what actually occurs in classrooms. However, a study by Clunies-Ross, Little, and Kienhuis (2008) found a positive relationship between reported and observed teacher strategies, thereby validating the use of self-reporting measures of teacher strategies. Nevertheless, whether teachers actually apply the strategies, how often and how effectively in the classroom remain as open questions. Although it is important to seek insights into applied teacher

strategies, it is even more important to ascertain how students perceive these teacher strategies. A study by Beek et al. (2014) provided evidence that students' perceptions offer insights into teachers' practices and students' perceptions. We therefore recommend that future studies also encompass students' perceptions in the identification and perceived effectivity of teacher strategies.

Both studies revealed practical issues in the field of educational research. First, both studies had modest sample sizes, making it difficult to draw firm conclusions and question if the sample of respondents in both studies are representative for Dutch general education teachers. Second, the use of vignettes in the main study did not provide insights into what general education teachers do in practice. Yet, due to the large variability in the responses per item of the follow-up study, the results of the follow-up are not likely to be generalisable. Despite these issues in both studies, we carefully reflected on the research designs and decided that the research designs are the most suitable. Vignettes are the most suitable methodology for validating the TS-SP model (Poulou 2001). However, teachers' ratings related to their experiences with their own students are more conducive to acquire a better understanding of the daily classroom practices of general education teachers.

By applying questionnaires to assess what general education teachers do in their classroom, more detailed information about the classroom context and therefor the possible effects or restrictions of this classroom situation are missed. We therefore recommend that future research on the teacher strategies to facilitate the social participation could apply multiple longitudinal case studies in which the specifics of the situation, needs per different type of SEBD and students characteristics are taken into consideration, measure the effects of the applied teacher strategies on the social participation of the students and include teacher reflections on the observed, applied teacher strategies to deepen the understanding of teacher practices facilitating social participation in the inclusive classroom. In addition we recommend that future research would compare the perceived effectiveness of strategies per type of SEBD, either based on vignette studies or for own students, and if there is a difference per type of SEBD and which strategies are applied in the classroom. Based on the different characteristics and needs of students within the spectrum of each type of SEBD, we would expect differences in perceived effectiveness and appliance of strategies (Mooij and Smeets 2009; Cooper 2011), enforcing to differentiate and to not apply a one-size-fits-all approach when facilitating social participation in the inclusive classroom.

For the use of the TSQ-SPC in future research, we would recommend adjusting the Likert scales used in the questionnaire and including an option of 'never' for frequency and 'not effective' for perceived effectiveness. To enable a smooth comparison between the Likert scales without using rules of thumb, we recommend the use of Likert scales of the same size.

Although more research is necessary to optimise the teacher strategy questionnaire, these studies reflect important advances. On a practical level, the two studies provided insights into a naturalistic teaching practice. These insights, especially in the follow-up study, revealed that general primary education teachers apply a limited repertoire of strategies directly aimed at facilitating the social participation of students in their classroom. This implies the need to provide more support for the general primary education teacher, to equip them to adequately facilitate the social participation of all students in the classroom.

On scientific grounds, we do not recommend designing a questionnaire or intervention that only focuses on one of the sub-categories of social participation, notwithstanding the empirical research, as the findings of the main study and Koster et al. (2011) indicate that in practice, these categories are perceived by teachers as being interwoven. Theoretical research has provided a solid conceptual basis for the different sub-categories of social participation (Koster et al. 2009; Garrote, Dessemontet, and Opitz 2017). Accordingly, we recommend attending to the multidimensionality of social participation when designing a questionnaire or intervention that is aimed at facilitating social participation (Garrote, Dessemontet, and Opitz 2017).

General conclusions

This paper has presented two related studies aimed at addressing the lack of knowledge regarding teacher strategies for facilitating the social participation of students with SEBD within an inclusive classroom. In light of the findings of both studies, we conclude that general primary education teachers apply a limited repertoire of strategies. This finding that teachers do not apply a variety of strategies when facing problems related to the social participation of students in their classroom is of concern. The results and conclusions of both studies indicate an urgent need for future research on the development of interventions and revision of the pre- and in-service teacher development curricula to provide general education teachers with sufficient support and preparation to adequately address and promote the social participation of students with SEBD within inclusive classrooms. Moreover, more research focussed on what teachers do in the classroom is needed to adequately equip teachers with a larger repertoire of teaching strategies focussed on social participation that fit the actual classroom context. Allowing teachers to differentiate between students and different types of SEBD, by applying more diverse strategies rather than an one-size-fits-all approach for social participation. This would contribute to the avoidance of the negative consequences of low social participation on the overall development of students, with or without SEBD, who are socially excluded in the inclusive classroom.

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Appendices

Appendix A

An example of a vignette extracted from the main study.

Alex, Grade 4: a pupil demonstrating hyperactive and impulsive behaviour

Alex, who is in Grade 4, is the 'Duracell Bunny' of the class. He is full of energy, cannot sit still for long and often walks around the classroom. Observations of his behaviour reveal that he is on task only 20% of the time. The rest of the time, he looks around, disrupts his classmates or walks around the classroom. Alex finds it difficult to pay attention during instruction. He is of average intelligence but requires a lot of individual attention. A constructed sociogram revealed that Alex was chosen positively just once and negatively eight times. Alex's social position within the class can therefore be labelled as one of rejection.

Appendix B

Correlation matrix of social participation strategies.

	CI.1	CI.2	CI.3	A.1	A.2	A.3	A.4	A.5	A.6	A.7	SS.1	SS.2	SS.3	SS.4	SS.5	SS.6	SS.7	SS.8	SS.9	SS.10
CI.1	1.000																			
CI.2	.472	1.000																		
CI.3	.380	.407	1.000																	
A.1	.378	.408	.188	1.000																
A.2	.358	.323	.475	.125	1.000															
A.3	.244	.384	.367	.186	.350	1.000														
A.4	.220	.329	.397	.139	.342	.609	1.000													
A.5	.350	.327	.444	.210	.436	.337	.414	1.000												
A.6	.328	.597	.270	.545	.222	.274	.284	.441	1.000											
A.7	.250	.400	.406	.129	.333	.206	.184	.362	.325	1.000										
SS.1	.211	.197	.256	.112	.308	.241	.355	.155	.109	.267	1.000									
SS.2	.110	.216	.194	.199	.183	.327	.325	.115	.322	.264	.358	1.000								
SS.3	.268	.229	.178	.219	.205	.124	.163	−.014	.102	.161	.146	.351	1.000							
SS.4	.255	.320	.216	.115	.233	.218	.218	.418	.173	.436	.364	.260	.151	1.000						
SS.5	.176	.230	.248	.194	.295	.237	.389	.427	.242	.312	.362	.328	.389	.364	1.000					
SS.6	.223	.292	.352	.244	.307	.360	.380	.246	.301	.271	.446	.350	.068	.179	.278	1.000				
SS.7	.340	.489	.476	.102	.493	.438	.423	.448	.308	.410	.432	.224	.195	.493	.343	.288	1.000			
SS.8	.300	.362	.411	.252	.314	.535	.597	.425	.271	.171	.324	.328	.232	.313	.302	.345	.503	1.000		
SS.9	.203	.222	.075	.199	−.001	.166	.221	−.097	.091	.014	.260	.166	.280	.094	.163	.250	.132	.369	1.000	
SS.10	0.183	.282	.057	.377	.013	.211	.195	.085	.351	.117	.131	.326	.298	.052	.317	.313	.109	.130	.104	1.000

Note: CI = Contact and interactions, A = Acceptance by peers, SS = Social self-perception.

Appendix C

Correlation matrix of pre-conditional strategies.

	CS.1	CS.2	CS.3	EA.1	EA.2	EA.3	EA.4	EA.5	CP.1	CP.2	CP.3	CP.4	TS.1	TS.2	TS.3	P.1	P.2	P.3
CS.1	1.000																	
CS.2	.326	1.000																
CS.3	.529	.322	1.000															
EA.1	.295	.287	.459	1.000														
EA.2	.395	.304	.338	.245	1.000													
EA.3	.187	.192	.239	.307	.408	1.000												
EA.4	.407	.239	.328	.308	.435	.383	1.000											
EA.5	.417	.431	.417	.392	.354	.360	.354	1.000										
CP.1	.343	.474	.284	.366	.152	.166	.241	.371	1.000									
CP.2	.258	.202	.116	.231	.111	.102	.228	.135	.268	1.000								
CP.3	.204	.306	.273	.157	.198	.254	.198	.192	.379	1.000								
CP.4	.182	.332	.143	.215	.175	.080	.193	.161	.224	.675	.273	1.000						
TS.1	.365	.381	.428	.219	.223	.241	.437	.320	.259	.311	.457	.325	1.000					
TS.2	.199	.129	.227	.258	.169	.108	.409	.417	.092	.348	.179	.307	.255	1.000				
TS.3	.249	.032	.196	.019	.102	.062	.322	.219	.123	.479	.280	.355	.380	.499	1.000			
P.1	.321	.327	.277	.180	.169	.256	.326	.332	.072	.211	.111	.239	.346	.310	.128	1.000		
P.2	.438	.306	.435	.204	.174	.292	.428	.378	.364	.314	.208	.267	.393	.178	.178	.522	1.000	
P.3	.349	.250	.290	.100	.107	.210	.345	.252	.182	.394	.142	.319	.368	.256	.235	.639	.790	1.000

Note. CS =Collegial support, EA = Educational adjustments, CP = Contact with parents, TS = Teacher-student relationships, P = Professionalisation.