



The relationship between emotional regulation of teachers and the participation of students with autism in inclusive primary and preschool schools

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In this study, we used Gross's (2015) emotional regulation model to examine teachers' emotional regulation strategies and the relationship between this emotional regulation and the participation of students with ASD. The sample was selected using a non-probabilistic technique (convenience) with a total of 131 Cuban teachers from primary schools and preschools participating. The results revealed significant differences in the emotional regulation strategies used by teachers which were associated with teaching stage and specific ASD training, with primary school teachers and those who had ASD training obtaining better results. In addition, a significant relationship was found between teachers using cognitive reappraisal of emotions and the participation of students with ASD in school. Practical implications, teacher training programs and lines of future research are discussed.

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterised by qualitative deficits in communication and social interaction and the presence of restricted and repetitive behaviours or interests (American Psychiatric Association, 2013). In the last decade, the diagnosis of ASD has grown exponentially (Frombonne, 2018). This has happened alongside the global emergence of the inclusive education paradigm promoted by the United Nations Convention on the Human Rights of Persons with Disabilities (United Nations, 2006), which has allowed many students with ASD to participate in mainstream schools. This reality has led to a growth in research related to the cognitive and emotional experiences of teachers who educate students with ASD, given that teachers, as quintessential socialising agents, play a key role in the participation and socialisation of students with autism (Adams et al., 2019).

Teachers experience a wide range of emotions when carrying out their educational practice. In addition, they need

to respond to the emotional demands of students in the classroom (Brotheridge and Grandey, 2002). According to Taxer and Frenzel (2015), teachers usually control their emotions through what is known in the literature as Emotional Regulation (hereinafter ER). This key variable for personal and social development can be conceptualised as the conscious and unconscious process by which individuals influence the emotions they have, when they have them, and how they experience and express these emotions (Gross, 2015). The daily reality of teachers' work becomes even more complex when students with ASD are involved in the inclusive classroom (Hauerwas and Mahon, 2018). Thus, teachers report feeling "apprehensive" or "frustrated" by the disruptive behaviours of students with ASD, as well as by the lack of time and resources which are actually needed to respond in a timely manner to the cognitive, emotional, and volitional needs of these students (Anglim et al., 2018; Soto-Chodiman et al., 2012). The way in which teachers regulate their emotions can be reflected in their pedagogical practice and especially in their attitude towards the inclusion of students with ASD (Robertson et al., 2003), a key aspect to stimulate the participation of students with this diagnosis.

Teachers' emotions have been shown to be related to teachers' perceived self-efficacy and confidence in the classroom (Sutton, 2005), as well as student motivation and engagement (Becker et al., 2014; van Doorn et al., 2014). However, teachers who educate students with ASD face levels of stress which are higher than average (Rämä et al., 2019). Existing research on how teachers regulate their emotions has focused predominantly on mainstream education teachers (Taxer and Gross, 2018), with little scientific literature regarding how teachers who educate students with ASD regulate their emotions in the inclusive classroom. In this sense, based on the ER model by Gross (2015), the present study examines the ER strategies used by Cuban teachers at inclusive primary schools and preschools that educate

students with ASD, in addition to analysing if there is a possible relationship between these ER strategies and the degree of participation of students with this neurodevelopmental condition.

Participation of students with ASD in school activities

Characteristics and severity levels of people with ASD in key areas of psychopathology such as social competence (Özerk et al., 2021), sensory responsiveness (Feldman et al., 2020), social communication (Ghanouni et al., 2019), and social behaviour (Stockwell et al., 2021), substantially limit the degree of participation of students with ASD in socio-cultural activities, and especially in school life (Hodges et al., 2020). While it is true that many students with ASD are now able to access classrooms that are open to diversity, it is key to understand that simply attending school is not conducive to participation and is not indicative of successful educational inclusion (Symes and Humphrey, 2012). In a study by Frederickson et al. (2007), primary school students with special educational needs, including those diagnosed with ASD, were found to be more likely to experience bullying and exclusion in the classroom.

Students with ASD experience higher levels of absenteeism, suspension, and exclusion from school (Allison and Attisha, 2019; Totsika et al., 2020); and participate less than their classmates in curricular and extracurricular activities, which are essential for their development (Kaljača et al., 2019). In this sense, it is possible to assert that the restrictions on school participation of students diagnosed with ASD are widely researched, but less is known about the emotional experience of teachers who have the social responsibility of educating these students in classrooms open to diversity. According to the criteria of Simpson et al. (2018), as a general rule, teachers want more diversity, frequency, and participation of students with ASD in school activities. In this context, considering that teachers use ER to achieve educational purposes in their pedagogical work (Taxer and Gross 2018), it is necessary to study what role this ER of teachers plays in the participation of students with ASD.

ER strategies: approach from the field of education

The Gross model (2015) for ER conceptualises this psychological construct as a process, conscious and unconscious, through which people influence their emotions, the way they experience and express them. This approach proposes a multitude of strategies to regulate emotions, including situation selection (this is done based on the anticipation of experiencing certain emotions in a situation), situation modification (actively changing a situation to alter its emotional impact), attention deployment (focusing attention externally or internally with the intention of altering emotional responses), cognitive change (altering the emotional impact of a situation by changing one's appraisal of the situation), and response modulation

(altering physiological, experiential, or behavioural aspects of emotional response).

ER strategies play a key role in the social, cognitive, and affective lives of people in all stages of life (Gross, 2015). In the field of education, Sutton's (2004) study highlighted that teachers use: (1) situation modification to make changes to school activities that were not going as planned and to manage disruptive student behaviour; (2) attention deployment to highlight positive thoughts before class or to ignore students who show no interest or misbehave; and (3) cognitive change to reinterpret student misconduct and its impact on coexistence in the classroom space. Teachers also use emotional response modulation to repress, fake and mask their emotions, and they also use breathing exercises to modulate their emotions in the fulfilment of their pedagogical work (Taxer and Frenzel, 2015).

The literature shows that the ability of teachers to manage their emotions is a key resource that helps prevent stress, excessive worry, emotional and work exhaustion, reduced feelings of personal fulfilment, as well as the decline of student learning outcomes (Corcoran and Tormey, 2013). Emotional regulation plays a major role in how teachers express emotions, manage stress, and interact with students in the classroom, especially as it relates to students diagnosed with ASDs (Taxer and Gross, 2018). The educational work carried out by teachers is not independent of the way in which educators regulate their emotions (Taxer and Frenzel, 2015). In other words, of the conscious and unconscious process that allows identifying, developing, and expressing emotions in a context (Gross, 2015).

One of the central features of ER is the activation of goals that can change the way we experience an emotion (Gross, 2015). In a study developed by Taxer and Gross (2018), it was observed that teachers used instrumental ER strategies (changing the emotion to meet another important objective), and hedonic strategies (making changes in the emotion to feel positive emotions instead of negative), to regulate their own emotions and those of their students in the classroom and ER strategies to also reduce negative emotions. Jennings and Greenberg (2009) assert that teachers' emotions are related to an optimal climate in the classroom and to achieving the desired student results, such as participation and learning. These findings have been verified by Sutton et al. (2009), who observed that teachers regulate their emotions to improve the effectiveness of their teaching, as well as the participation and learning of their students in the classroom.

The literature on ER has focused more on mainstream education teachers, while teachers working with people with functional diversity have received less attention

(Hickman and Jureia, 2017). This draws attention to the importance of emotions in the work of teachers, which acquires a special dimension in inclusive education. Teachers at inclusive schools, on numerous occasions, must deal with the emotional attacks of students with unique characteristics in their neurodevelopment, such as students with ASD. It is possible to assume that differences in the way of regulating emotions have an impact on the teacher's response to behaviours of students diagnosed with ASD, for example, the wide and complex repertoire of interruptions, rule violations, social isolation, and the repeated failure to meet goals (Dillenburger et al., 2017). That is why studies are required that contribute to the understanding of the role of the ER of the teacher in the inclusive classroom where students with ASD participate.

The aim of the present study

The objective of this study was to examine the ER strategies of Cuban primary and preschool teachers who educate students with ASD and determine their relationship with the degree of participation of students with ASD in inclusive classrooms.

In this sense, through this research we explored the following research questions:

1. What ER strategies are used by Cuban teachers at inclusive primary schools and preschools when teaching students with ASD?
2. What are the most used actions within the ER strategies used by Cuban teachers at inclusive primary schools and preschools when teaching students with ASD?
3. Are there differences between the ER strategies used by Cuban teachers at inclusive primary schools and preschools that educate students with ASD in relation to gender, age, teaching stage, educational level, experience in mainstream and/or inclusive classrooms, specific ASD training, type of school, and school location?
4. Are the ER strategies used by Cuban teachers at inclusive primary schools and preschools that educate students with ASD related to the degree of participation in school activities of students with ASD in inclusive classrooms? These objectives can contribute to a better understanding of the educational processes that occur in Cuban primary and preschool classrooms in which students with ASD are enrolled. Likewise, the results can provide valuable information to guide the initial and continuous training programs of Cuban teachers in the field of ER.

Methods

Research design and participants

The research corresponds to a descriptive, comparative, and correlational design. It can also be classified as non-

experimental and cross-sectional, given that the participants were evaluated at a single moment in time (Hernández-Sampieri and Torres, 2018). The selection of the sample was carried out using non-probabilistic convenience sampling. A total of 131 Cuban primary school and preschool teachers who had the social responsibility of educating schoolchildren with ASD in inclusive classrooms were evaluated. The teachers belonged to 57 primary schools and preschool education centers located in urban and rural areas throughout the Island of Cuba (see teacher characteristics in Table 1).

Primary and preschool teachers in charge of educating students with ASD in inclusive classrooms were included. Primary school and preschool teachers who were not directly related to students with ASD and teachers eligible for the study but who did not fill out the questionnaires

Table 1: Characteristics of the participating teachers.

Variable	n (%)
Gender	
Female	108 (82.4%)
Male	23 (17.6%)
Age	
Under 30 years	16 (12.2%)
31–50 years	92 (70.2%)
Over 50 years	23 (17.6%)
Educational level	
Bachelor's	82 (62.6%)
Master's	49 (37.4%)
Teaching stage	
Primary	97 (74%)
Preschool	34 (26%)
Mainstream classroom experience	
<5 years	5 (3.8%)
5–10 years	20 (15.3%)
More than 10 years	106 (80.9%)
Inclusive classroom experience	
<5 years	103 (78.6%)
5–10 years	25 (19.1%)
More than 10 years	3 (2.3%)
Specific training to teach students with autism	
Yes	17 (13%)
No	114 (87%)
Type of school	
Mainstream	110 (84%)
Preschool	21 (16%)
School location	
Urban	87 (66.4%)
Rural	44 (33.6%)

were excluded. All teachers understood the general objective of the study and participated voluntarily.

Evaluation measures

Sociodemographic information form. Teachers provided information regarding their gender, age, educational level, teaching stage, years of experience in mainstream education, years of experience in inclusive education, specific training to teach students with autism, and school location.

Student with special educational needs participation questionnaire at school. Self-report instrument previously prepared by the author responsible for the study in collaboration with other authors (not published). This questionnaire consists of 8 items that measure the participation of the student with special educational needs in educational, social, and recreational activities at school, such as: “the student participates in recreational activities carried out at school (for example, participation in games and/or celebrations)”. For each item, the teacher surveyed uses the Likert evaluation scale (4 = Same as the others, 3 = Somewhat limited; 2 = Very limited; 1 = Unable). The degree of participation of the student with special educational needs was calculated by means of the average of all the scores, understanding that higher averages indicate higher participation. In our study, “student with special educational needs” was changed to “student with autism”. In its creation, the content validity of the questionnaire was determined by expert judgement using Aiken’s V coefficient (0.83). The estimation of reliability through Cronbach’s alpha in our study resulted in a value of (0.87), which is acceptable in educational sciences.

Emotional regulation questionnaire. Self-report questionnaire developed by Gross and John (2003), to measure two ER strategies: cognitive reappraisal (6 items) and expressive suppression (4 items). The ERQ is made up of 10 items and people must respond using a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The scores obtained are calculated dimensionally and cognitive reappraisal is considered to be the most positive and healthy strategy. Higher averages prove more frequent use of a particular strategy. The psychometric properties of the ERQ were tested using convergent, discriminant and construct validity and Cronbach’s Alpha coefficient was (0.69) for both dimensions. The ERQ has evidence of validity in Spanish (see Cabello et al., 2013; Gouveia et al., 2018). In our study, reliability using Cronbach’s alpha showed a value of (0.82).

Procedure

Once approved by the Ethics Committee of the University of Talca (Chile), contact was established with primary and preschool educational centers and the authorization of the teachers was obtained. Teachers who decided to participate voluntarily and disinterestedly were included in

the study. The application of the Personal Information Form, the Student with special educational needs participation questionnaire at school and the Emotional Regulation Questionnaire was carried out by an educational psychologist with experience in the field of educational psychology, developmental psychology, and surveying. Data collection was carried out during the months of April and May 2021 using a pencil and paper format. The evaluations were carried out during class hours (8.00 a.m.–2.30 p.m.) according to teacher’s availability during their schedule. The psychopedagogue, as the interviewer, remained in the classroom during the administration of the questionnaire to resolve concerns and/or doubts that may arise when answering the questionnaire. The time it took to answer the questionnaires ranged from 25 to 35 minutes.

Ethical considerations. The study was approved by the Scientific Ethics Committee of the University of Talca, Chile (Page: 45–2020).

Data analysis

Statistical processing was carried out using the operational benefits of the SPSS 18.0 program and Excel spreadsheets. Descriptive statistics of mean, standard deviation, frequencies, and percentages were used. According to the indicators of the Kolmogorov–Smirnov statistic, the data fit the normal distribution, so parametric statistical methods were chosen. To compare emotional regulation strategies according to gender, teaching stage, specific training to teach and location of the school, the t-test for independent samples was used. One-way ANOVA and Tukey’s specificity test were used to compare emotion regulation strategies according to the variables age, educational level, experience in mainstream classrooms, and experience in inclusive classrooms. The relationships between emotional regulation strategies and the degree of participation of students with ASD were verified by means of a multiple linear regression model. In all the comparisons, a significance level of $P < 0.05$ was adopted.

Results

Table 2 shows the average values of the ER strategies, the numbers and the percentages of teachers who fully agreed with certain actions within the ER strategies. The most used strategy by teachers was the cognitive reappraisal of emotions ($x = 34.3$). In the cognitive reappraisal of emotions dimension, actions (1, 5, 10) were above (35%) in the “completely agree” category. Action 1 (55.7%) “When I want to increase my positive emotions (e.g., joy, fun), I change the topic I am thinking about”, obtained the highest value. Regarding expressive suppression of emotions, actions (2, 6) were above (35%). Action 6 (54.2%) “I control my emotions by not expressing them”, obtained the highest value. This gives us a clue as to which ER strategies (and within these strategies the most used actions) that are most used by

Cuban preschool and primary school teachers who educate students with ASD in inclusive classrooms.

Table 3 shows the comparisons of teachers' ER strategies according to the variables gender, teaching stage, educational level, specific training to teach students with ASD and school location. In this sense, significant differences were found between the participants when cognitive reappraisal strategies and expressive emotion suppression strategies were compared, according to the teaching stage and the specific training to teach students with ASD. In the case of teaching stage, the differences appeared in cognitive reappraisal and expressive suppression of

emotions. However, in the specific training to teach students with ASD they only appeared in the expressive suppression of emotions ($P < 0.05$). In turn, when the strategies of cognitive reappraisal and expressive suppression of emotions were compared according to gender, educational level and school location, no significant differences were found ($P > 0.05$).

Table 4 shows the comparisons of teachers' ER strategies according to age, experience in mainstream education and experience in inclusive education. The results show that there were no significant differences between the teachers regarding the use of cognitive reappraisal or expressive suppression of emotions according to the compared variables ($P < 0.05$).

Table 2: Description of the ER strategies and actions used by teachers in the inclusive classroom.

Emotion Regulation Questionnaire – ERQ			
Cognitive reappraisal		X	std
		34.3	4.82
Actions		n	% strongly agree
1.	When I want to increase my positive emotions (e.g., joy, fun), I change the topic I am thinking about	73	55.7
3.	When I want to reduce my negative emotions (e.g., sadness, anger), I change the topic I am thinking about	26	19.8
5.	When faced with a stressful situation, I try to think about it in a way that helps me stay calm.	51	38.9
7.	When I want to increase my positive emotions, I change the way I think about the situation	20	15.3
8.	I control my emotions by changing the way I think about the situation I find myself in.	41	31.3
10.	When I want to reduce my negative emotions, I change the way I think about the situation	52	39.7
Expressive suppression		X	std
		21.5	4.69
Actions		n	% strongly agree
2.	I keep my emotions to myself	47	35.9
4.	When I am feeling positive emotions, I am careful not to express them.	41	31.3
6.	I control my emotions by not expressing them	71	54.2
9.	When I am feeling negative emotions, I make sure not to express them.	21	16.0

Notes: N, number of teachers.

Table 5 shows the relationship between cognitive reappraisal and expressive suppression of emotions with the participation of students with ASD in classrooms open to diversity. It is observed in the standardised β coefficients that the cognitive reappraisal of emotions represents the highest values in the model (0.342), while the expressive suppression represents the lowest values (–0.201). In this sense, cognitive reappraisal was significantly related to the participation of students with ASD in schools open to diversity ($P < 0.05$).

Discussion

The results of the study showed that Cuban primary and preschool teachers use the strategy of cognitive reappraisal of emotions more frequently and use expressive suppression to a lesser extent. The most used actions within these strategies are the deployment of attention, cognitive change, and modulation of emotional response. In this sense, teachers seek to change the subject they think about in order to increase positive emotions and reduce negative ones or control their emotions, not expressing them and keeping them to themselves. These results are consistent with the findings of Sutton (2004) and Sutton et al. (2009), who also observed that teachers use cognitive reappraisal and expressive suppression of emotions because they believe that it helps them with management and discipline in the classroom, in addition to benefiting the relationship with students. Therefore, according to the findings of our study we can assume that teachers who educate students with ASD use hedonic goals (changing emotions so that one feels positive emotions instead of negative ones), and instrumental goals (regulating anger to express an idea more clearly in a moment of tension), to regulate their emotions (Gross, 2015).

There is evidence in the literature that underlines that teachers who educate students with ASD in conditions of inclusion, as a rule, feel “apprehensive” or “frustrated”, due to the rigid thinking and disruptive behaviours of students with ASD, as well as the scarcity of time and resources needed to provide support (Anglim et al., 2018;

Table 3: Comparison of teachers' ER strategies according to the variables of gender, teaching stage, educational level, specific training to teach students with ASD and school location.

Variable	N	Cognitive reappraisal				Expressive suppression			
		M	Std	T	Sig.	M	Std	T	Sig.
Gender									
Female	108	34.2	4.92	0.474	0.636	21.5	4.79	0.160	0.873
Male	23	34.7	4.37			21.3	4.29		
Teaching stage									
Primary	97	34.8 ^a	4.79	2.068	0.041	21.0	4.67	-1.969	0.051
Preschool	34	32.8	4.65			22.8 ^a	4.55		
Educational level									
Bachelor's	82	34.2	4.98	-0.188	0.851	21.8	4.44	1.086	.280
Master's	49	34.4	4.57			20.9	5.07		
Specific ASD training									
Yes	17	34.5	3.67	.205	0.838	23.8	2.87 ^b	2.188	0.030
No	114	34.2	4.98			21.1	4.82		
School location									
Urban	87	34.7	4.57	1.561	0.121	21.3	4.92	-0.807	0.421
Rural	44	33.3	5.19			22.0	4.21		

Notes: ^a: significant difference relative to preschool teachers; ^b: significant difference relative to teachers who did not receive specific training to teach students with ASD; N (number); \bar{x} (mean); Std (standard deviation); T (Students t test); Sig. (statistical significance).

Table 4: Comparison of the ER strategies of teachers according to the variables of age, experience in mainstream education and experience in inclusive education.

Variable	N	Cognitive reappraisal				Expressive suppression			
		M	Std	F	Sig.	M	Std	F	Sig.
Age									
Under 30 years	16	33.4	5.98	0.391	.677	20.2	5.32	0.842	0.433
31–50 years	92	34.3	4.76			21.8	4.45		
Over 50 years	23	34.8	4.27			21.2	5.19		
Mainstream classroom experience									
<5 years	5	38.0	3.39	2.321	0.102	20.0	7.00	0.382	0.684
5–10 years	20	32.9	5.61			21.1	4.70		
More than 10 years	106	34.3	4.64			21.6	4.60		
Inclusive classroom experience									
<5 years	103	34.5	4.69	0.413	0.662	21.6	4.41	1.180	0.310
5–10 years	25	33.6	5.45			20.7	5.82		
More than 10 years	3	33.3	4.61			25.0	2.00		

Notes: Exp = experience; N (number); \bar{x} (mean); Std (standard deviation); F (Fisher's F test); Sig. (statistical significance).

Soto-Chodiman et al., 2012). Based on the ER literature and the findings of our study, it is possible to conclude that teachers change the way they are thinking about the disruptive behaviours of autistic students in the classroom to increase their positive emotions and also to influence their emotional state; and in other cases, they simply control their emotions by not expressing them and keeping them to themselves. However, we do not know this for sure and research using qualitative and/or combined methods is needed to help us clearly understand how and

why teachers who educate students with ASD in inclusive classrooms regulate emotions.

Regarding the comparison of ER strategies, significant differences were found according to the teaching stage and specific ASD training. Regarding the first variable, primary school teachers differed significantly from preschool teachers in terms of cognitive reappraisal and expressive suppression. Regarding the second variable, differences were found in expressive suppression, given

Table 5: Linear regression model to analyse the effect of emotional regulation strategies (cognitive reappraisal and expressive suppression) on the participation of students with ASD in inclusive classrooms.

Model	Non-standardised coefficients		Standardised coefficients		
	Beta	Standard error	Beta	t	Sig.
1. Constant	10.923	3.302		3.308	0.001
CR	0.383	0.115	0.342	3.333	0.001
ES	-0.231	0.118	-0.201	-1.960	0.052

Abbreviations: CR = Cognitive reappraisal; ES = expressive suppression.

that those teachers who had received specific training in ASD showed a lower level in said ER strategy. It is possible that this happens because teachers who do not have a good command of the foundations of ASD tend to repress their emotions in the face of disruptive behaviour of students with ASD. These results could not be compared with other research given that to our knowledge, there are no previous studies that have used these variables as a basis for comparison, which prevents these results from being contrasted. However, these teacher characteristics have been explored in other studies related to the education of children with ASD and are key to explaining how teachers respond to the needs of students with ASD (Ballantyne et al., 2021; Marsh et al., 2017). That is why it is necessary to continue exploring what role these variables play in teacher's emotions.

This is the first study to examine the relationship between teachers' ER strategies and the participation of students with ASD in inclusive classrooms. The findings of our study highlight that the cognitive reappraisal of emotions turned out to be the most relevant variable when explaining the participation of students with ASD in school. Although there are no previous studies that have addressed the relationship between these variables, it has been proven in other research that cognitive reappraisal and expressive suppression of emotions play a key role in explaining teacher's mental health and their work educating children. In a study conducted by Berkovich and Eyal (2019), it was observed that the cognitive reappraisal of emotions is related to teachers' positive mood, while expressive suppression is related to teachers' negative mood. It has also been possible to prove that teachers' ER strategies are related to the well-being of students in the classroom (Braun et al., 2020).

Along the same lines, Donker et al. (2020) highlighted that cognitive reappraisal, but not expressive suppression, was associated with lower levels of teacher emotional exhaustion. Similarly, a study by Chang and Taxer (2021) highlighted that teachers who use cognitive reappraisal more frequently to regulate their emotions have less negative affective experiences in the context of student misconduct and are less likely to suppress their negative emotions in

the moment. These findings can serve as a guide to understand why in our study cognitive reappraisal turned out to be the dimension that was significantly related to greater participation of students with ASD in school. This could suggest that cognitively reevaluating emotions can make teachers more flexible in their attitude towards educating children with ASD, in such a way that the disruptive behaviours inherent in ASD do not negatively impact their teaching practice. In this sense, it is necessary for teachers to be prepared to use cognitive reappraisal and to be able to effectively manage their emotions, which can contribute to the cognitive, emotional, and volitional development of their ASD students.

Limitations of the study and future lines of research

This study has some limitations, such as using a non-probabilistic sampling technique, so these results could be limited to the schools and teachers studied. Future studies could use other information-seeking devices (such as observations and diaries) to examine, from a different perspective, the relationship between teachers' ER strategies and the participation of students with ASD in school. For example, future studies could ask the following question: are the ER objectives of teachers related to disruptive behaviours or to particular situations that involve the participation and socialisation of students with autism? These methods would go beyond relying on teachers' responses to recall emotional incidents related to their social work.

Conclusions

The teaching stage and the specific training to teach students with autism play a significant role in the use of ER strategies by Cuban primary and preschool teachers who educate students with ASD in schools open to diversity. Additionally, the use of cognitive reappraisal of emotions by teachers was observed to affect the participation of students with ASD in school, the relationship between both variables being significant. These results suggest that the teachers in this study used a wide variety of ER strategies to fulfil their social work in inclusive classrooms, and that the cognitive reappraisal of emotions by teachers can be considered as a dimension that contributes to predicting the participation of students with ASD in school. To date, there is a lack of research that examines the role of ER strategies in teachers at schools open to diversity, especially schools that include students with this neurodevelopmental condition.

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Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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