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Developing a measure of educator self-efficacy around emotion co-regulation

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Introduction: Research suggests that one of the most pervasive consequences of traumatic events is the resulting dysregulation of emotions. Educators, including teachers, administrators, and student services staff, are instrumental in supporting students as they navigate overwhelming emotions by modeling and teaching skills to regulate emotional states (i.e., emotion co-regulation). Given the saliency of emotion co-regulation within educational contexts, this study presents the development and preliminary psychometric exploration of a measure of educator self-efficacy for co-regulation.

Methods: We examined differences by educator characteristics (gender, professional experience, role in the school) as well as previous training in trauma-informed approaches and culturally responsive strategies.

Results and discussion: Preliminary findings support the measure to be reliable and valid, with construct validity supported by positive associations to other theoretically applicable constructs such as culturally responsive strategies, as well as educator characteristics such as professional experience and role. However, a lack of association with trauma-informed training, suggests the need for additional research into supporting emotion co-regulation self-efficacy for educators.

KEYWORDS

trauma, student–teacher relationships, supportive classroom environment, emotional and social development, equity

Introduction

Traumatic events are stressful experiences that completely overwhelm one's ability to adaptively cope in the moment, frequently indicated by feelings of horror or helplessness, serious harm, or the threat of serious injury or death (The National Child Traumatic Stress Network, 2015). Approximately two-thirds of children living within the United States have reported experiencing one or more traumatic events, including violence at home, shooting or robberies, and natural disasters (The National Child Traumatic Stress Network, 2015). Internationally, it is estimated that 1 billion children experience some form of physical and/or emotional violence, abuse, or neglect (The World Health Organization, 2022). Furthermore, exposure to traumatic events disproportionately affects lower-income and certain racial/ethnic minoritized populations (Bethell et al., 2017). Children exposed to traumatic events are at risk for homework difficulties, poor performance on standardized tests, low GPA, increased absenteeism, grade repetition, and punitive disciplinary action (Perfect et al., 2016; Dube and McGiboney, 2018). Thus, to support educators' and schools' efforts engaging in more equitable practices it is critical that we understand ways in which educators can support students exposed to traumatic events.

The ability to regulate emotions is a critical aspect of healthy development in childhood that is disrupted by exposure to traumatic events (Rosenbalm and Murray, 2017; Gruhn and Compas,

2020). Emotion regulation is broadly defined by the capacity to manage thoughts and feelings in order to achieve goal-directed behavior and adaptive interpersonal relationships (Van der Kolk et al., 2005; Panlilio et al., 2023). There are neurobiological mechanisms associated with both emotion and/or behavioral responses that become altered as a result of exposure to traumatic events (Marusak et al., 2015). For instance, scholarly work suggests that there are specific areas of the brain that become triggered in the presence of trauma making children exposed to adversity more likely to be emotionally reactive (D'Andrea et al., 2012; McLaughlin and Lambert, 2017). From a developmental perspective, research suggests that children's externalizing difficulties are associated with emotion dysregulation (Eisenberg et al., 2010). In addition, neuroscience has demonstrated that humans develop their abilities for emotion regulation through positive connections with reliable caregivers (Perry, 2007; Spinazzola et al., 2021); through these connections, emotion regulation is modeled and supported – a process known as co-regulation. Traumatic events have also been linked to diminished social functioning preventing children from creating and engaging in adaptive social interactions (McDoniel and Bierman, 2022). These disruptions may result in behaviors that negatively impact a student's educational experience such as challenges finding emotional outlets or managing feelings in developmentally appropriate ways (Meléndez Guevara et al., 2022). Children struggling with trauma may mistrust adults, which in turn, may negatively affect their relationship with educators or other adults within schools (Schwarz and Perry, 1994; Wilkinson, 2016).

In the context of early care and education, there is consistent evidence suggesting that early childhood professionals have a salient role in supporting the development of emotion regulation (Denham et al., 2012; Alzahrani et al., 2019; Hoffmann et al., 2020). However, less is known about how emotion regulation is supported for older children by educators in primary or secondary educational settings. This study presents the development and preliminary psychometric exploration of a measure of educator self-efficacy for co-regulation. Self-efficacy is defined as a set of beliefs regarding the perceived ability to accomplish a specific task (Bandura, 1995). In this study we assessed educators' self-reported perceptions of their ability to co-regulate their students' emotions. To do this, we developed a new self-report measure based on a previously used observational measure of co-regulation for school-aged children (Silkenbeumer et al., 2018).

Understanding co-regulation

As defined by the Applied Developmental Model of Self-regulation (Murray et al., 2019), co-regulation involves three pillars: a warm and responsive relationship, a safe and structured environment, and the consistent support and reinforcement of emotion regulation skills (Murray et al., 2019). Co-regulation is facilitated through secure and caring relationships in safe and predictable environments. Consistent with a trauma-informed approach, a safe and empowering environment is needed for responsive interactions to take place whereby emotions can be supported, coached, and modeled effectively (Murray et al., 2019). Therefore, co-regulation can be conceptualized as the trauma-informed lens of learning, interpreting and expressing emotions (i.e., emotional socialization; Pollak and Thoits, 1989) – a frame shift that prioritizes emotional responsiveness and interpersonal connections to facilitate emotional safety, growth, and self-regulation skills. The role of educators' own stress, emotion self-regulation and mental health has been explored in the classroom context (Jennings et al., 2019; Frenzel et al., 2021). Specifically, recent conceptual work by Valiente et al. (2020) has focused on understanding the role that teachers and classroom contexts have on emotion regulation. They suggest the relevance of both teachers' relationship quality with their students as well as their reactions to students' emotional displays. Importantly this is influenced by and in turn creates the larger classroom climate.

The significance of emotion co-regulation in childhood extends beyond emotional learning and development. For instance, effective emotion co-regulation has been shown to build self-efficacy in children, as the supportive process enhances a child's feeling of security to try new things and make mistakes (Silkenbeumer et al., 2018; Murray et al., 2019). Further, emotion co-regulation can exponentially increase a child's ability to self-regulate and develop self-confidence which facilitates the forming of healthy relationships with others (Murray et al., 2019). Additional research has shown a link between consistent, supportive emotion co-regulation and adaptive social and academic development throughout childhood (Denham et al., 2012; Alzahrani et al., 2019; Hoffmann et al., 2020). Therefore, we argue it is of critical importance to support educators' self-efficacy for emotion co-regulation as it has implications for both individual and classroom behavioral and academic processes, well-being, and student outcomes. This is particularly true for students for whom their parents may not be able to provide emotion co-regulation support, or for students for whom the disproportionate exposure to traumatic events disrupts their ability to manage emotions and/or form strong attachments to emotion socializers (Cabecinha-Alati et al., 2022).

Educator support for emotion co-regulation

While research demonstrates the importance of emotion co-regulation on overall social and emotional child well-being, there is scarce development of school-based interventions targeting co-regulation skills. As evident by a systematic review of 312 school interventions focused on promoting self-regulation, only one-third of the interventions for elementary school age students incorporated a co-regulation component (Murray et al., 2019). Emotion co-regulation components were even less used in interventions focused on middle and high school students due to competing developmental foci, such as cognitive techniques and general life skills training (Murray et al., 2016). Emotion co-regulation, as defined by the study, was a focus on warmth, responsivity, and scaffolding. As these constructs were present in 100% of interventions focused on ages birth-2, it represents an understudied aspect of emotion regulation interventions in primary and secondary school settings.

Outside of direct interventions with children and families, an additional factor that may support emotion co-regulation is educator knowledge and skills. Besides parents, educators arguably have the most opportunity as well as the best relational position to support childrens' emotion regulation (Valiente et al., 2020). However, professional issues related to teaching and school systems – for example, high student-to-teacher ratios and overall job stress – can significantly impact an educator's ability to focus on and promote

emotion co-regulation in the classroom (Denham et al., 2012; Hoffmann et al., 2020). When teachers are the target of emotion co-regulation interventions with their students, they show improvement not only in overall classroom climate but also in their personal self-regulation skills (Valiente et al., 2020). Unfortunately, a large number of teachers report minimal or no training on emotion co-regulation during their teacher preparation programs (Marlow and Inman, 2002; Garner, 2010; Reinke et al., 2011; Hoffmann et al., 2020). However, there has been a growing interest in trauma-informed approaches and cultural responsiveness in education (Melendez Guevara et al., 2021). As these approaches in education support relationship building and perspective-taking they may positively impact educators' ability to co-regulate student emotions (Brunzell et al., 2021). Trauma-informed and culture responsivity trainings may represent an important practice that can support adversity-informed learning contexts through their impact on co-regulation (Panlilio et al., 2023). For example, previous work has found that training in such frameworks have the potential to counter the effect of trauma and stress and make teachers feel more efficacious in understanding and dealing with the negative impact of traumatic exposure of students (Dorado et al., 2016; Maynard et al., 2019).

This study

Considering the critical role of emotion co-regulation within the school context, particularly for students with histories of traumatic exposure, the present study aims to develop and explore initial psychometric properties for a measure of educators' self-efficacy for co-regulation. To measure emotion regulation, the research team created a scale that mapped onto relevant theory of emotion regulation in the classroom (Denham et al., 2012; Murray et al., 2019). Specifically, questions were asked to reflect self-efficacy of reappraisal and soothing through coaching and modeling. Scores on this scale were compared with educators' self-efficacy for classroom management, student engagement, school climate, and working with students' parents (Tschannen-Moran and Hoy, 2001; Bandura, undated). We also examined differences in mean scores by educator characteristics including gender, professional experience, and role in the school. Additionally, we modeled the role of previous training in trauma-informed approaches and culturally responsive strategies as related to self-efficacy for emotion co-regulation. Importantly, this will allow for an understanding of the modifiability of self-efficacy for emotion co-regulation.

Methods

Participants

Data were from a school-based sample of educators including teachers, administrators, and other supportive staff (i.e., office personnel and student services staff) in Arizona, a southwestern state in the United States. Key demographic characteristics of our sample ($n = 86$) included more females (87%) than males (12%) or other non-binary categorization (1%). Most participants reported they had experience in their current role for 5 years or less (47.8%); however, a number of participants indicated they had 20 years or more experience in their role (24.6%). Most participants that identified their role were teachers (39%), including special education teachers (5.7%), student services staff (27.1%), and administrators (14.3%). Regarding training, 73% of participants reported receiving training in a trauma-informed approach and 64% in culturally responsiveness. Trauma informed in the survey was defined for participants as an approach that realizes the impact of adversity on behavior and focuses on creating safe and welcoming environments that support resilience (Harris and Fallot, 2001). Cultural responsiveness was defined as a strategy involving self-reflection and adoption of practices that are representative of the cultural knowledge, prior experiences, and engagement styles of the students and parents (Ladson-Billings, 1995). A full break down of key demographic characteristics are included in Table 1.

Procedure

We used a non-probability sampling strategy to recruit participants to complete an electronic survey. Specifically, we solicited

TABLE 1 Key demographic characteristics of the sample ($N=86$).

Domain	Outcome
Gender, *n* (%)	
Male	8 (11.3%)
Female	61 (87.1%)
Other	1 (1.4%)
Missing	16 (18.6%)
Experience in years, *n* (%)	
5 years or less	33 (47.8%)
6 to 10 years	12 (17.3%)
11 to 20	7 (10.0%)
20 years or more	17 (24.6%)
Missing	17 (19.8%)
Role in school, *n* (%)	
Administrator	10 (14.3%)
Teacher	23 (32.9%)
Office staff	1 (1.4%)
Special Education Teacher	4 (5.7%)
Student services	19 (27.1%)
Other	13 (18.6)
Missing	16 (18.6)
Trauma-informed training, *n* (%)	
Yes	57 (73.1%)
No	21 (26.9%)
Missing	8 (9.3%)
Cultural responsiveness training, *n* (%)	
Yes	45 (64.3%)
No	25 (35.7%)
Missing	16 (18.6)

Student services includes school psychologists, social workers, and counselors.

assistance from local education partners to post and advertise the survey through their relevant electronic listservs. Prior to participants completing the survey, they had the opportunity to review a brief description of the purpose of our study, as well as read and complete informed consent electronically. Participants were entered in a draw for 1 of 10 $100 electronic gift cards to compensate for their time and participation. Survey development was guided by members of the research team, co-investigators of this project and informed by relevant scholarly work on the constructs of interest (Denham et al., 2012; Murray et al., 2019). Our study was approved by the Arizona State University Institutional Review Board.

Measures

Educator self-efficacy for emotion co-regulation

Six items measuring emotion co-regulation were drafted that reflected both different strategies (i.e., reappraisal, soothing) as well as different levels of support (i.e., coaching or modeling) based on a previously used observational measure of co-regulation (Silkenbeumer et al., 2018). The question style and response patterns were mapped onto widely used measures of educator self-efficacy and based off the three pillars of the Applied Developmental Model of Self-regulation (Murray et al., 2019). Specifically question stems asked perceptions of ability with a nine-point Likert type response scale (1 = *nothing*, 5 = *some influence*, and 9 = *a great deal*). Items were: "*To what extend can you coach students on the appropriate response to their emotions?*," "*How well can you talk about emotions with students?*," "*How much can you do to soothe or distract students from emotions?*," "*To what extent can you remain emotionally positive in the classroom despite challenges?*," and "*How much can you do to support students in coping with their own emotions?*." The final factor structure included five items; due to redundancy, one item was omitted from the 5-factor structure (i.e., *How well can you support students in managing their own emotions?*"). Items were summed to calculate a score of educator self-efficacy for co-regulation ($\alpha = 0.85$).

Self-efficacy for classroom management and school climate

The Ohio State University Teacher Sense of Efficacy Scale (Tschannen-Moran and Hoy, 2001) was used to assess: (1) self-efficacy for classroom management ($\alpha = 0.88$; "*How well can you establish a classroom management system with each group of students?*"), and (2) self-efficacy regarding student engagement ($\alpha = 0.84$; "*How much can you do to help students value learning?*"). This measure included a total of 8 items measured on a 9-point Likert type scale (1 = *nothing*, 5 = *some influence*, and 9 = *a great deal*). Banduras' Teacher Self-Efficacy Scale (undated) was also utilized to assess self-efficacy to improve school climate (7 items), and self-efficacy in working with students' parents (3 items). Sample items included "*How much can you do to make school a safe place?*" and "*How much can you do to get parents become involved in school activities?*" Items were measured on a 9-point Likert type scale (1 = *nothing*, 5 = *some influence*, and 9 = *a great deal*). For each of these self-efficacy scales items were summed ($\alpha = 0.88$ for school climate; $\alpha = 0.82$ for self-efficacy working with parents).

Sociodemographic characteristics

Educators reported on their identified gender (Females = 0, Males = 1), professional experience (e.g., 5 years or less, more than 5 years), and role in school (e.g., administrator, educator, office staff, and other).

Professional development

Participants were asked to indicate in separate questions if they had received relevant training on trauma-informed approaches and/or cultural responsiveness (No = 0, Yes = 1).

Data analysis

Preliminary analysis for examining distributional properties of the study variables were conducted using SPSS 25. Correlations between emotion co-regulation self-efficacy and all other measures of self-efficacy were carefully examined to determine convergent validity of our measure. We used exploratory factor analysis (EFA; Henson and Roberts, 2006) to conduct the initial examination of items in the emotion co-regulation scale, we retained 5 of the 6 items based on factor leading and correlations. Given the relevance of some key descriptive indicators of the sample (Klassen and Chiu, 2010) we explored differences by educator's characteristics that might influence their self-efficacy around emotion co-regulation (i.e., gender, years of experience and professional role) using sample *t* test and analysis of variance (ANOVA) respectively. In addition, we added these indicators in our regression model as covariates. Mplus 8.2 was used to employ both the confirmatory factor analysis of the self-efficacy for emotion co-regulation, as well as our regression model examining the impact of relevant training on educators' self-efficacy for emotion co-regulation. All variables were centered at the mean prior to running analyses. In order to evaluate adequate model fit, we used different fit statistic indicators including chi-square, root means square error of approximation (values of 0.08 or lower; RMSEA; Steiger, 1990), standardized root mean square residual (value of 0.05 or lower; SRMR; Bentler, 1990), and the comparative fit index (values of 0.95; CFI; Bentler, 1990).

Results

The confirmatory factor analysis indicated a good fit for the data (χ^2 (5) = 7.06 $p > 0.01$, RMSEA = 0.08 [0.000, 0.195], SRMR = 0.03, CFI = 0.98; See Figure 1). Each of the self-efficacy for emotion co-regulation items loaded on one factor with all estimates above 0.40 which is considered to be meaningful (Floyd and Widaman, 1995). Correlations between items ranged from weak to strong, fluctuating from 0.26–0.81. This indicated that the items could be used to represent one construct.

The mean self-efficacy for emotion co-regulation score was 7.21 (SD = 1.18), with a range between 3–9. The scale showed good reliability ($\alpha = 0.86$) and demonstrated construct (e.g., convergent) validity, with correlations between 0.51 and 0.70 with the other teacher self-efficacy scales (see Table 2). While ANOVA and *t* test analyses revealed that classroom teachers as compared to all other groups reported lower values on co-regulation self-efficacy $M = 6.87$ (1.1) the differences on co-regulation self-efficacy by gender, length of

professional experience, and role were non-significant (see Table 3). These indicated that the items were measuring aspects of the same construct, that self-efficacy for emotion co-regulation related to similar constructs in unique but expected ways, and that differences could be explained by some educator characteristics.

In the regression model (see Figure 2), greater than 5 years of experience was significantly associated with improved self-efficacy for emotion co-regulation ($B = 0.217$ (0.09), $p < 0.05$), but gender and professional role were not significantly associated. Training in cultural responsiveness was significantly associated with improved self-efficacy for emotion co-regulation ($B = 0.43$ (0.11), $p < 0.000$) while controlling for the effect of gender, role, and experience. Having training in trauma-informed approaches was not significantly associated with self-efficacy for emotion co-regulation (see Figure 2). This indicates that self-efficacy for emotion co-regulation could be influenced by experience and culturally responsiveness training.

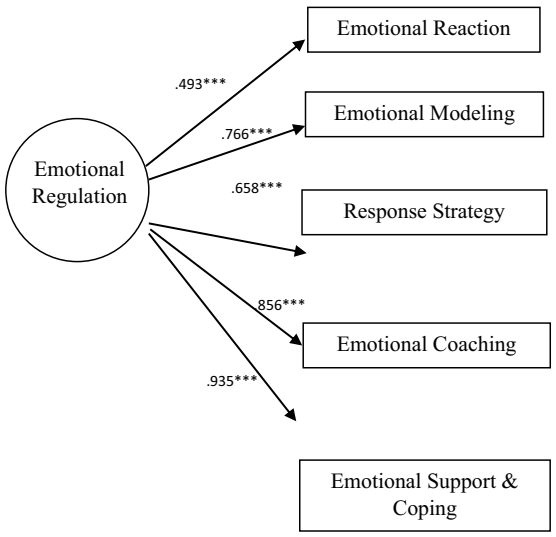

FIGURE 1
Factor loadings for the emotional co-regulation self-efficacy scale. confirmatory factor analysis of the emotional regulation scale with standardized factor loadings ($N = 86$). χ^2 (5) = 7.060 $p > 0.01$, RMSEA = 0.077 [0.000, 0.195], SRMR = 0.034, CFI = 0.98, TLI = 0.96. Items were: "to what extent can you remain emotionally positive in the classroom despite challenges," "howe well can you talk about emotions with students," "how much can you do to soothe or distract students from their emotions," "to what extend can you coach students on the appropriate response to their emotions," and "how much can you do to support students in coping with their won emotion".

Discussion

The present study aimed to develop and preliminary assess a measure for educators' self-efficacy for emotion co-regulation. Although there are numerous existing measures to assess educator's self-efficacy, most of these are designed to assess self-efficacy with respect to teaching practices and classroom behaviors (e.g., Tschannen-Moran and Hoy, 2001), or measure self-efficacy and emotion regulation independently (Fathi and Derakhshan, 2019). Given the saliency of emotion regulation for positive child development, it is critical that research focuses on educator's self-efficacy to help regulate student's emotions in schools, as such this competency can support overall student well-being, as well as educational outcomes [see Valiente et al. (2020) for a conceptual model]. Additionally, emotion co-regulation may be an important tool for supporting youth who have been exposed to traumatic events, and for whom emotion regulation challenges are often present. While preliminary, the results of the study provide support of a measure of educators' self-efficacy for emotion co-regulation.

Specifically, results suggest that the 5-item measure reliably assessed self-efficacy for emotion co-regulation as evidenced by high internal consistency despite representing distinct components of emotion co-regulation (e.g., reappraisal, soothing, and coaching) as discussed in theory (e.g., Silkenbeumer et al., 2018). This study also provided evidence of convergent validity of this measure, as indicated by the positive association between self-efficacy for emotion co-regulation and all other self-efficacy measures used in this study. Further, the measure demonstrated differences by experience in the regression analysis such that educators with 5 years or less experience in their profession demonstrated significantly lower self-efficacy for emotion co-regulation as did those who had been in their profession for more than 5 years. This finding is similar to other studies which

TABLE 2 Zero order correlations of study variables.

	M (SD)	1	2	3	4	5	6	7	8	9	10
1. TI train											
2. CR train		0.339**									
3. Gender		0.125	−0.084								
4. Experience	9.07 (7.16)	−0.246*	−0.228	−0.021							
5. Role		0.298*	0.342**	0.098	−0.307*						
6. SE BEH	7.30 (1.29)	−0.002	0.082	−0.164	0.106	−0.177					
7. SE LE	6.74 (1.23)	0.203	0.299*	−0.071	0.069	0.185	0.578**				
8. SE parent	6.18 (1.52)	0.058	0.218	−0.076	0.103	0.026	0.441**	0.762**			
9. SE	6.76 (1.39)	0.032	0.189	−0.201	0.165	−0.043	0.586**	0.744**	0.768**		
10. EmoReg	7.21 (1.18)	0.227	0.458**	−0.062	0.085	0.195	0.436**	0.685**	0.532**	0.550**	

TI Train, trauma-informed training; CR Train, culturally responsive training; Experience, years of experience; Role, professional role; SE BEH, self-efficacy behavioral; SE LE, Self-efficacy learning; SE parent, self-efficacy parents; SE, self-efficacy; EmoReg, emotional regulation. *Correlation is significant at the 0.05 Level. **Correlation is significant at the 0.01 Level.

TABLE 3 Mean differences for co-regulation self-efficacy by gender, length of experience, and role (N=86).

	Male *M* (SD)	Female *M* (SD)	Mean comparison
Co-regulation Self-efficacy	7.28 (1.1)	6.93 (1.3)	t (67) = 0.43, p = 0.884
	Less than 5 years *M* (SD)	More than 5 years *M* (SD)	
Co-regulation self-efficacy	7.22 (1.1)	7.21 (1.2)	t (67) =0.49, p = 0.661

	Teacher *M* (SD)	Administrator *M* (SD)	Student services *M* (SD)	Other *M* (SD)	
Co-regulation Self-efficacy	6.87 (1.1)	7.42 (1.0)	7.33 (1.4)	7.56 (0.92)	F (3,66) = 1.38, p = 0.254

The non-binary case for gender was excluded from this analysis. Student services include school psychologists, social workers, and counselor.

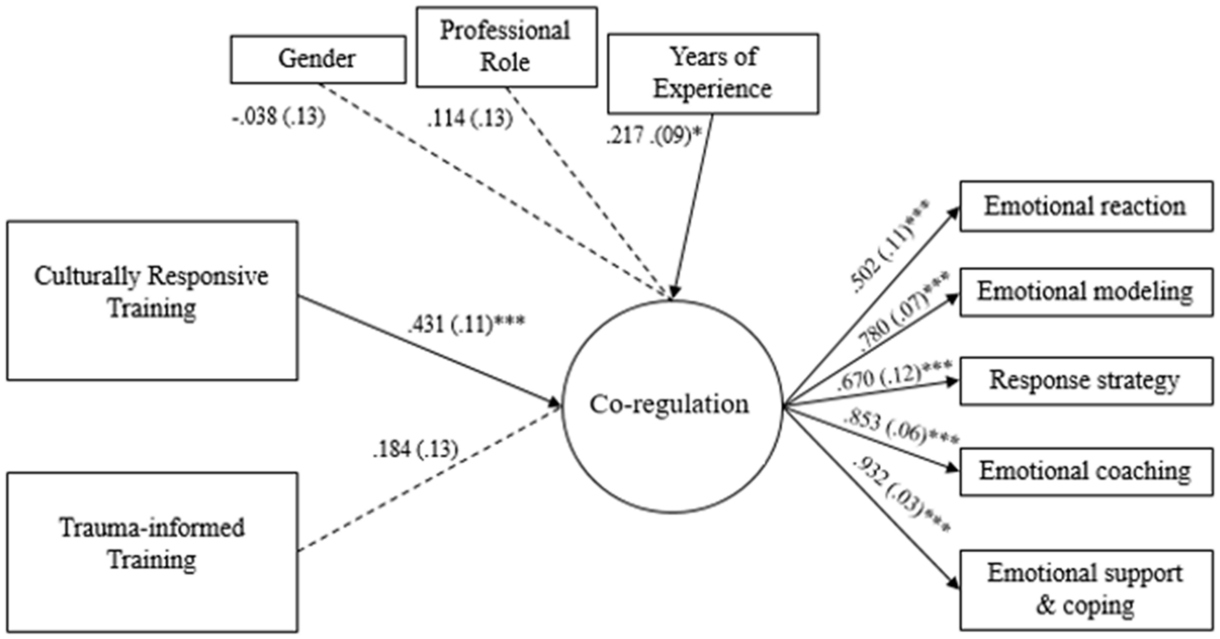

FIGURE 2
Hypothesized regression model. Structural equation model examining training exposure (culturally responsive and trauma-informed) predicting school staff emotional co-regulation. Standardized parameters estimates are presented first with standard errors in parentheses. Solid lines indicate significant paths (***p<0.001, *p<0.05). Slashed lines indicate non-significant paths. χ^2 (24)=29.57, p<0.001, RMSEA=0.052 [0.000, 0.115], SRMR=0.071, CFI=0.97, TLI=0.96. Gender=male, female; Professional in professional role=5years or less and more than 5years in professional role; Professional role=Teacher, administrator, student services school psychologist, social worker, or counselor and other.

indicate a curvilinear relationship between teaching self-efficacy and years of experience, with an increase into mid-career that falls afterwards (Klassen and Chiu, 2010).

While educators in our sample overall reported high levels of self-efficacy for co-regulating students' emotions, reporting receiving training in cultural responsiveness was associated with improved perceptions of co-regulation ability. We think this may be associated to teachers' increased confidence in building trusting relationships with their students, which is consistent with culturally responsive teaching philosophies (Brunzell et al., 2021). In addition, this may support the importance of integrating culturally responsive approaches to improve relationships between educators, students, and families. Potentially, these trainings may provide educators with the further tools to interact more personally with students or indicate the presence of school-level support of a more personalized approach to education (Bottiani et al., 2018). However, and unexpectedly, reporting receiving trauma-informed training was not associated with educators' self-efficacy for emotion co-regulation. This may be related to the fact that trauma-informed professional development opportunities are often restricted to training on the basics of trauma and its broad impact (Melendez Guevara et al., 2021). Specifically, previous research surveying educators on their thoughts and perceptions regarding trauma-informed training found that a limitation of training within educational settings lays in the lack of elaboration, specificity, and extrapolation of trauma-informed professional development opportunities (Melendez Guevara et al., 2021). Further, while evidence exists to support individual interventions for students exposed to traumatic events (i.e.,

trauma-specific services), more research is needed on diverse and sustainable approaches to addressing trauma in school (i.e., trauma-informed care) (Maynard et al., 2019). Preliminary research exploring multi-tiered approaches to trauma-informed care, which include trauma specific services, have shown improvement in teacher knowledge and self-efficacy, and impact on students mental, emotional, and behavioral health (Berger, 2019). Combined this literature suggests the need to move training in trauma-informed schools beyond awareness to support skill development and a more holistic understanding of the compounded and multifaceted impact of traumatic exposure.

Limitations

Although the results provided strong preliminary support for the psychometric properties of a newly developed measure of educator's self-efficacy for emotion co-regulation, there are some limitations of this research that must be noted. Foremost, this is a preliminary study with a small sample size ($n = 86$) and therefore, more rigorous methods (e.g., item response theory) using larger and more generalizable samples are needed. We did not inquire about educator grade level; however, this is important as strategies to support emotion co-regulation have the potential to vary contextually and developmentally. Thus, future research should examine aims across various grade levels as well as understand the influence more broadly of student, staff, classroom, and school characteristics. This study relied on educator's self-report of trainings in trauma-informed approaches and cultural-responsiveness, therefore, we did not inquire further about the content of such trainings. Relatedly, this measure was administered only once in the present study, thus, further research will be necessary to better stablish the sensitivity of this measure to fluctuations of educators' competencies and training overtime. Importantly this includes assessing how the nature, intensity and specific content in trauma-informed and culturally-responsiveness trainings impact educator self-efficacy for co-regulation. This may also provide further insight into future measure adaptations. Finally, predictive validity of this measure relative to students' socioemotional outcomes is needed to fully support its value as a construct.

Implications for the field

Educators' self-efficacy for co-regulating their students' emotions is an important construct, particularly as schools move toward adopting trauma-informed and culturally responsive models as best practices. Both of these frameworks rely on sociocultural responsive approaches of interacting with students, which prioritize understanding and acting in reflection on the social, cultural, contextual, historical and individual needs (Meléndez Guevara, 2022). Thus in order to evaluate the effectiveness of these trainings, an understanding of the mechanisms through which they impact teacher behavior and how that impacts student outcomes is needed. We believe that emotion co-regulation is an important process that has been under assessed in primary and secondary settings (Murray et al., 2016). By supporting educator professional development in the varying components of co-regulation (e.g., reaction, modeling, strategy, coaching, support, and coping) we can shift attitudes and beliefs into school climate change.

In sum, the current study provided preliminary evidence supporting the psychometric properties on a measure for emotion co-regulation for educators. Preliminary findings support the measure to be reliable and valid, with construct validity supported by positive associations to other theoretically applicable constructs, as well as educator and school characteristics. This measure has the potential utility to inform shortcomings in educators training and therefore, may be useful in supporting students' positive socioemotional development, particularly for those at higher and disproportionate risk to trauma exposure.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Arizona State Institutional Review Board. The patients/participants provided their written informed consent to participate in this study.

Author contributions

SL conceptualized the study. AM ran the analyses. AP collected the data. SL, AM, and AP participated in writing and reviewing the manuscript. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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