



# Emotion Display Rules, Emotion Regulation, and Teacher Burnout

Mei-Lin Chang\*

Department of Secondary and Middle Grades Education, Kennesaw State University, Kennesaw, GA, United States

Cognitive appraisal theories of emotions suggest that emotions are elicited by evaluations of events and situations and that our beliefs influence the ways we appraise or judge situations that we encounter. Gross and John (2003) theorized cognitive reappraisal and expressive suppression as two general forms to regulate emotions. Although teacher emotion has been studied more extensively in the recent decade, Chang (2009b) has argued that there is a need for research into the ways that teachers' implicit beliefs and cognitive processes influence their emotional reactions to the sources of burnout. Particularly, how emotional display rules serve as underlying principles that guide teachers to make decisions either consciously or unconsciously to express or not to express emotions. This study aims to examine the relationships among teachers' beliefs about emotional display rules in the classroom, and the approaches in emotion regulation, and the subsequent feelings of burnout. Survey data was collected from 561 full-time teachers and subjected to hypothesis testing using structural equation modeling. The model provides evidence supporting a pathway between emotion display rules and expressive suppression. These display rules are particularly influential to expressive suppression which also leads to all three dimensions of burnout: emotional exhaustion, depersonalization, and reduced personal accomplishment. Further, uses of cognitive reappraisals are found negatively associated with teacher burnout in all three dimensions. Results of the study indicated that teacher education or profession development should be designed to help teachers to detect and reframe their beliefs about display rules and to engage in cognitive reappraisal so that they may effectively manage their day-to-day emotions in the classroom.

**Keywords:** display rule, emotion regulation, teacher burnout, emotional labor, emotion management

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### \*Correspondence:

Mei-Lin Chang  
mchang6@kennesaw.edu

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## INTRODUCTION

Cognitive appraisal theories of emotions suggest that emotions are elicited by evaluations (appraisals) of events and situations (Lazarus, 1991; Roseman and Smith, 2001) and that our beliefs influence the ways we appraise or judge situations that we encounter (Tamir et al., 2007; Chang, 2009b). In understanding how individuals respond to aroused events, Gross and John (2003) theorized cognitive reappraisal and expressive suppression as two general forms to regulate emotions. Through cognitive reappraisal, people re-evaluate events and change the ways they perceive the cause of events to regulate how they feel. Through expressive suppression, people simply put aside what they feel about events so that they may pay attention to tasks at hand. Between these two approaches, cognitive reappraisal is considered more adaptive in emotion regulation (Gross and John, 2003). However, fewer research has validated cognitive reappraisal as an effective

mediator of teachers' emotional processes in the context of dealing with student misbehavior (Chang, 2009a; Brackett et al., 2010; Tsouloupas et al., 2010; Yin et al., 2016). Some scholars have argued classroom teaching is a context that is dissimilar to many other typical life events and there are certain emotional display rules in teaching that may influence how teachers feel or respond to emotions in the classroom (Sutton, 2004; Chang, 2009b; Schutz et al., 2009; Schutz, 2011; Huang et al., 2019).

Chang (2009b) has argued that there is a need for research into the ways that teachers' implicit beliefs and cognitive processes influence their emotional reactions to the sources of burnout. In the recent decades, scholars just began investigating emotion regulation among teachers (Carson, 2007; Chang, 2009a, 2013; Yin et al., 2016; Taxer and Gross, 2018). A few studies have found that teacher emotion regulation is shaped by their beliefs about emotional display rules in the classroom (Sutton, 2007; Zembylas, 2007). However, such link has not been established through empirical studies with quantitative data. Emotional display rules are underlying principles that guide us to make decisions either consciously or unconsciously to express or not to express our emotions (Hochschild, 1983; Isenbarger and Zembylas, 2006; Diefendorff and Greguras, 2009; Schutz et al., 2009). Often time, these rules may be implicit and subconscious if one has not critically examined their own beliefs about how or what to display their emotions in the classroom. Display rules have been extensively studied among service workers in the fields of organizational psychology; however, fewer empirical studies exist in the teacher emotion literature (Huang et al., 2019). To address this shortcoming, this study aims to examine the relationships among teachers' beliefs about emotional display rules in the classroom, and the approaches in emotion regulation, and the subsequent feelings of burnout.

## The Caring Nature of Teaching and Emotional Display Rules in Teaching

Teaching is often considered as a caring profession with a strong sense of moral purpose and responsibility for young people. Such a social expectation is likely to exert strong influence on teachers' management of emotions at work (Nias, 1999; Oplatka, 2007). The caring nature of teaching causes teachers to feel what their students feel and have high expectations of students' behaviors in the classroom (Isenbarger and Zembylas, 2006). Therefore, with the sense of moral purpose and responsibility, emotions become more intense in teaching than in other professions. In addition, the caring nature of teaching makes the classroom a unique space in which one may experience a wide range of emotions in numerous daily encounters with students; therefore, it requires one to manage or regulate one's emotions adaptively.

Caring for students requires a great deal of emotional understanding and emotional management; this is often referred to as emotional labor (Hargreaves, 1998; Isenbarger and Zembylas, 2006; Chang and Davis, 2009; Meyer, 2009). Emotional labor is defined as the experience of employees when required to feel, or at least project the appearance of, certain

emotions as they engage in job-relevant interactions (Hochschild, 1979, 1983). It includes the expression, and non-expression, of felt emotions and can include suppressing or faking genuinely felt experiences (Glomb and Tews, 2004). Emotional labor is the outcome of emotional work and involves feeling aroused by an emotion, knowing when it is appropriate to express an emotion (i.e., display rules), and knowing how to align the emotion we display with what we genuinely feel (Isenbarger and Zembylas, 2006; Chang and Davis, 2009).

Emotional display rules are underlying principles that guide us to make decisions either consciously or unconsciously to express or not to express our emotions (Ekman and Friesen, 1969; Hochschild, 1983; Isenbarger and Zembylas, 2006; Schutz et al., 2009). In the early conception of display rules, Ekman and Friesen (1969) defined emotional display rules as "the need to manage the appearance of particular emotions in particular situations (p. 137)." Diefendorff and Greguras (2009) stated that many jobs in organizations have display rules requiring individuals to express integrative emotions, which are positive emotions that bring people together and such integrative emotional displays are achieved by expressing positive emotions and suppressing negative emotions. In the classroom context, display rules are learned cultural norms that shape or influence the expression of emotions by encouraging or discouraging teachers to experience or express emotions (Isenbarger and Zembylas, 2006).

These cultural norms are learned when one interacts with the environments or when a student teacher interacts with the experienced mentors or the school cultures (Meyer, 2009). Particularly in the school context, it may be acceptable for anger to be felt and openly expressed in some cultures, but not in others (Cole et al., 2002; Schutz et al., 2009).

Teachers may endorse certain display rules in their relationships with students (Chang and Davis, 2009). Display rules serve as beliefs that influence teachers' feelings about what to feel or not to feel in the classroom. In the investigation of teacher anger, Liljestrom et al. (2007) found teachers are sometimes more reluctant to label their emotions, and may substitute it with the term "disappointed" when they discuss their relationships with students. Similarly, Sutton (2007) found that teachers were more comfortable talking about their frustration rather than anger. Such reluctance could be due to teachers' beliefs about emotional display rules in the classroom (Sutton, 2007). For example, in Zembylas's research (2007), a veteran teacher described the emotional display rules she held for a long time in her career "I prevented myself from expressing what I really felt, because it was not considered *professional* to do that." Such display rules require teachers' energy and efforts to regulate and control their emotions and may have detrimental effects on teachers' well-being.

In addition, individuals might have different understandings of these emotional display rules at the school (Newberry, 2010; Yin et al., 2016; Huang et al., 2019). Unlike service workers, teachers engage in emotional labor not just to align with the prescribed emotional display rule, instead they may see such efforts as instrumental in reaching their teaching goals and positive learning outcomes (Sutton, 2004; Huang et al., 2019).

## Using Cognitive Appraisal Theory to Understand Emotion Regulation Processes

Cognitive appraisal theories of emotions suggest that emotions are elicited by evaluations (appraisals) of events and situations, and discrete emotions can be differentiated based upon individuals' appraisals of situations and events (Arnold, 1960; Lazarus, 1991; Roseman and Smith, 2001). In other words, how we feel about events depends on how we perceive events in the situational context. Smith and Kirby (2001) asserted that appraisals are based on the meanings we assign to events. Individuals assign different meanings to various events, and our emotions are driven by the meanings, judgments, and appraisals we attribute to situations. For example, in the event of being mistreated, one person may feel angry, and the other person may feel guilty depending on their appraisals of the cause of mistreatment. Anger may be elicited when one blames another person for the mistreatment, such as a child who believes the mistreatment was given by a caring person purposefully against him/her, as in: "This is not fair, my mother did this only to me, not others." In the same event, guilt may be elicited rather than anger, when one blames him/herself for the mistreatment, such as a child who believes the mistreatment was given because of his/her fault, as in: "This is my fault; I am a bad child."

Derived from cognitive appraisal theory, emotion regulation can be described as a continuum from conscious, effortful, and controlled regulation to unconscious, effortless, and automatic regulation (Gross and Thompson, 2007). Gross (2002) proposed the framework of regulating emotion in two forms: cognitive reappraisal and expressive suppression. Through cognitive reappraisal, one changes thinking about a situation in order to decrease its emotional impact (Lazarus and Alfert, 1964). Through expressive suppression, one inhibits ongoing emotion-expressive behavior. Suppression not only has little impact on unpleasant emotions but also "consumes cognitive resources, impairing memory for information presented during the emotion regulation period" (Gross, 2002, p. 289). For example, if a teacher in the face of arousal events in the classroom chooses to suppress emotions and pretends to be calm, it is likely that the teacher will have limited cognitive capacity to carry out the lesson and the unpleasant emotion is not likely to go away.

## The Effects of Emotion Regulation in the Teaching Context

Although cognitive reappraisals are generally considered more adaptive than expressive suppressions (Gross, 2015), the positive effects of cognitive reappraisals have not been consistently established in the context of teaching (Brackett et al., 2010; Chang, 2013; Troy et al., 2013; Yin et al., 2016). The benefits of both emotion regulation strategies have been found to mediate the relationships between emotional job demands and teacher well-being in certain studies (Tsouloupas et al., 2010; Yin et al., 2016). When teachers reported engaging in cognitive reappraisal, they reported experiencing less extent of emotional exhaustion. However, in the context of classroom management, cognitive reappraisal and expressive suppression failed to show a mediating effect on the relationship between perceived student

misbehavior and emotional exhaustion (Tsouloupas et al., 2010). The authors speculated that the large percentage (45%) of experienced teachers (over 11 years) could have diminished the potential indirect effects of emotion regulation in their study of 610 elementary, middle- and high-school teachers. In a similar context, Chang (2013) could not establish the positive effects of cognitive reappraisals in the study of teacher emotion regulation and burnout when dealing with students misbehaviors. In explanation of why cognitive reappraisals may not be adaptive in all classroom context, Taxer and Gross (2018) asserted that the varying effects of reappraisals could be contributed to teacher's emotion regulation goals.

In a study of emotion regulation abilities of 123 English teachers, Brackett et al. (2010) examined the relationships of emotion regulation, teacher job satisfaction, and teacher burnout. Emotion regulation ability was found to positively associated with job satisfaction and greater personal accomplishment, but not with depersonalization and emotional exhaustion. It is suggested that teachers with higher emotion regulation ability may be more skills at generating positive emotions using diverse strategies such as self-talk and cognitive reappraisal to manage stress, and negative emotional experiences.

Alavinia and Ahmadzadeh (2012) studied the relationship between emotional intelligence and burnout among EFL teaches in Iran. The authors found that older and more experienced teachers are more reflective in their own emotional skills and they tend to systematically reassess these skills through an emotionally intelligent lens, as a result of which they are likely to be more successful at reducing the level of burnout.

Teachers often choose to neglect or suppress their emotions because work and power structures in schools could pose serious threats to teachers' objectives, and therefore influence teachers' expressions of intense emotional distress and anger (Liljestrom et al., 2007; Keller et al., 2014; Taxer and Frenzel, 2015; Taxer and Gross, 2018). Sutton (2004) asserted that suppression of emotions requires continuous self-monitoring and self-corrective actions for as long as emotion processes last, thus reducing cognitive resources for other activities. Carson (2007) used surveys and PDA diaries to investigate the relation between teacher burnout, teachers' emotions, and emotional regulation. The researcher found emotional regulation strategies like suppressing, faking, or hiding of true emotions led to greater overall burnout. Similar results were validated in Chang's (2013) study in which teachers are more prone to burnout when they report higher frequencies of regulating emotions by avoidance or suppression. These results are also consistent with several studies (Brotheridge and Grandey, 2002; Tsouloupas et al., 2010; Lee et al., 2016) which showed surface acting (e.g., hiding anger and fear) is significantly related to emotional exhaustion.

## The Relationships Between Display Rules, Emotion Regulation, and Burnout

The relationship between display rules and emotion regulation has been extensively studied in the social or organizational psychology, but less extensive in educational research. Diefendorff and Greguras (2006) note that display rules are

made up of positive display rules (showing positive emotions) and negative display rule (hiding negative emotions). Scholars argue that positive display rules should be more strongly related to deep acting in that people tend to actually feel positive emotions by recalling positive thoughts or cognitive reappraisal due to the desirable goals, whereas negative display rules would be more strongly related to surface acting in that hiding genuine negative emotions is a key part of surface acting (Diefendorff and Gosserand, 2003; Wolcott-Burnam, 2004; Taxer and Gross, 2018).

In social psychology, some researchers have attempted to establish a relationship between implicit beliefs and emotional well-being. Derived from Dweck (1986, 1996) implicit theories (i.e., beliefs about the malleability of human attributes), Tamir et al. (2007) investigated how college students' social and emotional adjustment is associated with their implicit beliefs of emotions as either fixed or malleable. Students who believe emotions are malleable (incremental) may agree with statements such as "If they want to, people can change the emotions that they have." Students who hold a fixed view of emotions may agree with statements such as "The truth is, people have very little control over their emotions." The researchers found holding incremental theories of emotion were positively associated with habitual use of cognitive reappraisal, but not related to expressive suppression. Incremental theories of emotions predicted greater psychological well-being, lower rates of depression, better social adjustment, and less loneliness.

Through a meta-analysis of studies conducted in the past 30 years on emotional labor, it was concluded that:

Surface and deep acting have different antecedents and consequences and represent two distinct types of emotional labor. Specifically, surface acting is mostly driven by negative display rules, high level of job demand, and lack of autonomy and social support, whereas deep acting is mostly determined by display rules, opportunities to display various emotions, and intensive and long time contacts with customers (Wang et al., 2011, p. 37).

Literature from social or organizational psychology and teacher education have suggested that surface acting is usually believed to require the suppression of negative emotions and the faking of positive emotions and high emotion demands; and surface acting is linked with emotional exhaustion (Biron and van Veldhoven, 2012; Chang, 2013; von Gilsa and Zapf, 2013; Taxer and Gross, 2018). However, some of the positive effects of deep acting strategies (i.e., reappraisals) identified in organizational or social psychology are not as consistent in the teacher emotion literature. As suggested by Huang et al. (2019), teaching profession is inherently different from other service work due to the caring nature of teacher-student relationships. For service workers, studies have shown deep acting to be related to increased professional efficacy and affective well-being (Brotheridge and Grandey, 2002; Brotheridge and Lee, 2003; Kim, 2008; Hülshager and Schewe, 2011; Johnson et al., 2017) and higher job satisfaction and task performance (Wang et al., 2011).

For teachers, the benefits of deep acting is not as consistent (Tsouloupas et al., 2010; Chang, 2013; Yin et al., 2016; Chang and

Taxer, 2020). Reappraisal was positively associated with teaching satisfaction and negatively related to emotional exhaustion (Tsouloupas et al., 2010; Yin et al., 2016). Chang and Taxer (2020) examined teacher emotion regulation and found that teachers who reported high levels of reappraisal and low levels of suppression at the trait-level also exhibited the lowest level of anger and emotional exhaustion, and higher level of enjoyment in teaching. However, teachers who reported high levels of reappraisal and suppression at the trait-level were the ones who experienced significantly higher levels of emotional exhaustion on a daily basis. This study indicated the complex nature of teacher emotion regulation in the classroom context and the need to further understand the antecedents and consequences of emotion regulation.

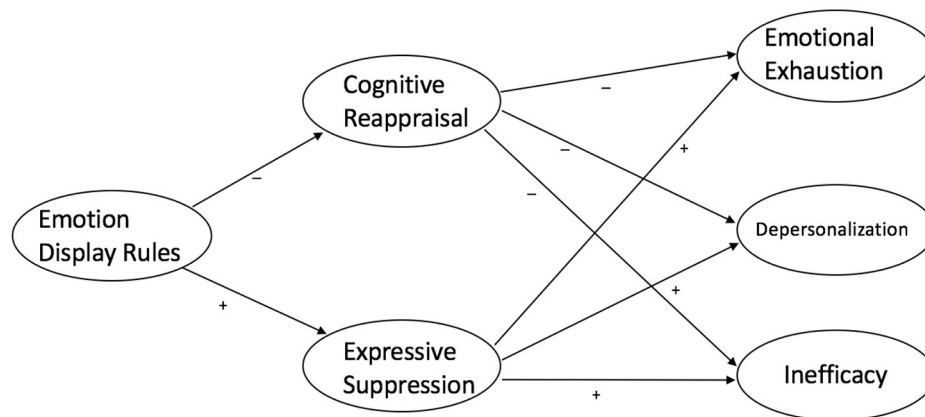
In sum, although negative consequences have been linked between expressive suppression and teacher burnout, it has not been validated how display rules may influence the ways teachers regulate emotions in the classroom. Several researchers had called for research to develop theoretical linkages between contextual display rules and various antecedent and outcome variables (Diefendorff and Greguras, 2009; Wang et al., 2011), and to address potential influence of cultural or situational characteristics on organizational behaviors (Johnson et al., 2017).

Based on the cognitive appraisal theory, the way we regulate emotions are shaped by our beliefs. Therefore, to help teachers to understand how to regulate their emotions adaptively, we need to first understand how their implicit beliefs about emotions such as display rules may affect their emotion regulation strategies. Through this study, we examined how display rules play a crucial role in how teachers respond to emotion-arousal events in the classroom. As illustrated in **Figure 1**, it is hypothesized that display rules may covariate with emotion regulation strategies. In particular, display rules regarding not showing true feelings in the classroom will contribute to expressive suppression. Further, expressive suppression will contribute to teacher burnout in all three dimensions: emotion exhaustion, depersonalization, and inefficacy.

## METHODS

### Sample

A total of 2,710 teachers were randomly selected through e-mail contact lists provided by a state-level research project team in the Midwest of U.S.A., Teacher Quality Project. Teachers were informed that clicking the survey meant they consented to participate in the study. They were then given 2 weeks to submit a completed survey before the researcher sent out a reminder email. Participants were prompted to answer all of the questions on the survey. The online survey was submitted by 717 teachers (26.45% response rate). Only completed surveys were included for further analysis. Participants were 561 full-time teachers from a Midwestern state in the United States (3% African American, 94.5% Caucasian-American, and about 2% of teachers who identified as Asian or Latino). Teaching experience of the participants ranged from 1 to 5 years (37.4% of the participants were first-year teachers, 19.6% were second-year teachers, 16.7% were third-year teachers, 26.3% had taught



**FIGURE 1 |** Theoretical model. "+" indicates positive covariance predicted between the variables, "-" indicates negative covariance predicted between the variables.

for over 4 years). Demographic information indicated 39.1% of teachers were teaching in urban schools, 29.9% in suburban schools, and 25.2% in rural schools. 30.4% of the participants were under 25 years old, 32.8% were between 26 and 30, and 36.4% were over 31.

## Measures

### Beliefs About Emotional Display Rules in the Classroom

Based on teacher emotion literature regarding display rules in the classroom (Liljestrom et al., 2007; Sutton, 2007; Zembylas, 2007), five items were designed to capture if teachers believe one should endorse display rules and keep emotions to themselves instead of revealing emotions to their students. Respondents were asked to indicate the extent to which they agree to the items in describing their own beliefs about emotion management in the classroom on a 6-point Likert-type scale (1 = Very strongly disagree, 6 = Very strongly agree). The reliability coefficient of the scale is 0.74. A sample item on the scale is "I think it is *inappropriate* for teachers to reveal their true feelings in the classroom." A high score on the latent variable indicates the more likely a teacher endorses those emotional display rules. A preliminary confirmatory factor analysis (CFA) was conducted to confirm the factor structure, and one of the items were deleted due to the lower factor loadings (<0.04). Items and the factor loadings are included in **Table 2**.

### Emotion Regulation

A 10-item emotion regulation scale by Gross and John (2003) was used to capture teachers' patterns of emotion regulation in the classroom context. In this 6-point Likert-type scale (1 = Very strongly disagree, 6 = Very strongly agree), six items were used to capture reappraisal strategies, and four items were used to capture suppression strategies. Sample items of reappraisal strategies are "When I want to feel less of an unpleasant emotion, I change what I'm thinking about" and "In a stressful situation, I make myself think about it in a way that helps me stay calm." Sample items of suppression strategies are "I keep my emotions to myself" and "I control my emotions by not expressing them."

Reliability coefficients for the reappraisal scale ranged from 0.75 to 0.82 and for the suppression scale ranged from 0.68 to 0.76 (Gross and John, 2003). The Cronbach's alpha in the present study was 0.86 for the reappraisal subscale, and 0.75 for the suppression subscale.

### Modified MBI-ES Scale

Teacher burnout was measured by the modified teacher burnout scale by Schaufeli and Salanova (2007) in three dimensions: emotional exhaustion, depersonalization, and inefficacy. A sample item for measuring emotional exhaustion is "I felt emotionally drained by my work." A sample item for measuring depersonalization is "I became less concerned about my students than I used to be." A sample item for measuring inefficacy is "I could *not* solve the problems that arose in my job." Participants were asked to report the frequencies of their experiences of burnout symptoms on a scale from 0 to 6 (0-Never, 6-Almost daily). High scores on the items indicate higher frequencies of burnout symptoms experienced. The 9-item scale includes three subscales on emotional exhaustion ( $\alpha = 0.87$ ), depersonalization ( $\alpha = 0.76$ ), and inefficacy ( $\alpha = 0.84$ ).

## Data Analysis

Basic statistical analyses were conducted using SPSS 26.0. Two main statistical procedures, confirmatory factor analysis (CFA) and structural equation modeling (SEM) were conducted using LISREL version 10.20 (Jöreskog and Sörbom, 2018). CFA was conducted to confirm the factor structures of the latent variables in the model. In order to determine the extent to which the proposed theoretical model was supported by the collected sample data, structural equation modeling (SEM) was used to test the fit of the model. Simultaneously, the latent construct also adjusts for any measurement error in both dependent and independent variables (Schreiber et al., 2006; Schumacker and Lomax, 2010). A covariance matrix was generated to test the model using the maximum likelihood method of estimation.

LISREL provides fit indices to judge the goodness of fit between the empirical data and the model-implied data

**TABLE 1** | Zero-order correlations of weighted latent variables in the model.

	1	2	3	4	5	6
1. Emotion display rules						
2. Cognitive reappraisal	0.05					
3. Expressive suppression	0.75**	0.06				
4. Emotional exhaustion	0.12**	-0.08	0.09*			
5. Depersonalization	0.23**	-0.13**	0.24**	0.57**		
6. Inefficacy	0.18**	-0.11*	0.15**	0.69**	0.74**	
Means (Unweighted)	2.91	4.31	2.47	3.99	2.18	2.59
SD (Unweighted)	0.89	0.95	0.95	1.60	1.19	1.39
Weighted means	8.24	13.84	5.65	10.34	4.74	6.24
Weighted SD	2.82	3.44	2.24	4.11	2.73	3.38
Cronbach's alpha	0.74	0.86	0.75	0.87	0.76	0.84

\*\*Correlation is significant at the 0.01 level (2-tailed).

\*Correlation is significant at the 0.05 level (2-tailed).

structures. In order to assess goodness of fit, the present study used the following indices: the chi-square goodness of fit ( $\chi^2$ ), the root mean square error approximation (RMSEA), the standardized root-mean-square residual (SRMR), the comparative fit index (CFI). The sample size of the present study is considered large ( $n = 561, >200$ ). Thus, RMSEA and CFI were chosen because these two indices are less sensitive to sample size than others (Fan et al., 1999). Model fit is excellent when the CFI is  $>0.95$  and acceptable when the CFI is no  $<0.90$ . In addition, RMSEA and SRMR must be  $<0.06$  and  $0.08$  for an excellent model fit, and  $0.08$  and  $0.10$  for an acceptable fit (Schreiber et al., 2006).

Estimation of direct and indirect effects were tested within LISREL. Specifically, the indirect paths from emotion display beliefs to all dimensions of burnout through the mediators (emotion regulation strategy) were estimated in addition to the hypothesized model (Preacher and Hayes, 2008).

## RESULTS

### Reliability and Construct Validity of the Scales

The descriptive results, correlations, and reliabilities of constructs are presented in **Table 1**. Teachers reported highest in their use of cognitive reappraisals ( $M = 4.31, SD = 0.95$ ), and lowest in their feelings of depersonalization ( $M = 2.18, SD = 1.19$ ). There are significant correlations among the majority of variables. These correlations followed the definitions of the variables, providing preliminary evidence for the construct validity of the scales.

In addition, two separate CFAs were conducted to confirm the factor structures of the latent variables. The first 3-factor CFA model included a total of 12 items measuring teacher's beliefs about emotion display rules in the classroom, and two types of emotion regulation strategies (cognitive reappraisals and expressive suppression). The fit indices indicated a good data fit ( $\chi^2 = 181.38, df = 41, p < 0.001, RMSEA = 0.07, SRMR = 0.04, GFI = 0.94, and CFI = 0.95$ ) with factor loadings ranging from  $0.48$  to  $0.84$ . The second 3-factor CFA model included

9 items measuring the three dimensions of teacher burnout: emotional exhaustion, depersonalization, and inefficacy. The fit indices indicated a good data fit ( $\chi^2 = 102.32, df = 23, p < 0.001, RMSEA = 0.07, SRMR = 0.03, GFI = 0.96, and CFI = 0.97$ ) with factor loadings ranging from  $0.67$  to  $0.89$ . Factor loadings of both CFA models are reported in **Table 2**. These results indicated that the construct validity of all of the scales was acceptable, and all of the latent variables were well-represented by the indicators.

### Structural Equation Modeling Results

Once the construct validity of the measurement model was established, the structural model was tested to examine the direct and indirect relationships between emotion display rules, cognitive reappraisal, suppression, and burnout. The fit indices indicated a good fit for the model overall ( $\chi^2 = 413.39, df = 158, \chi^2/df = 2.62, RMSEA = 0.05, SRMR = 0.04, GFI = 0.93, and CFI = 0.96$ ). Results reveal that teacher beliefs about emotional display rules in the classroom covaried with suppression ( $\beta = -0.98, p < 0.05$ ) but not with reappraisal ( $\beta = -0.09, p > 0.05$ , see **Figure 2** and **Table 2**). Further, reappraisals negatively covaried with all three burnout symptoms: emotional exhaustion ( $\beta = -0.10, p < 0.05$ ), depersonalization ( $\beta = -0.18, p < 0.05$ ), and inefficacy ( $\beta = -0.14, p < 0.05$ ) while suppression positively covaried with all three burnout symptoms: emotional exhaustion ( $\beta = 0.14, p < 0.05$ ), depersonalization ( $\beta = 0.39, p < 0.05$ ), and inefficacy ( $\beta = 0.22, p < 0.05$ ).

### Indirect Effects of Emotion Display Rules

Direct and indirect effects among the latent variables were estimated in LISREL. Emotion display rules have significant indirect effects on each dimension of burnout. As shown in **Table 3**, it has significant and positive indirect effects on emotional exhaustion ( $z = 0.12, p < 0.05$ ), depersonalization ( $z = 0.29, p < 0.05$ ), and inefficacy ( $z = 0.21, p < 0.05$ ).

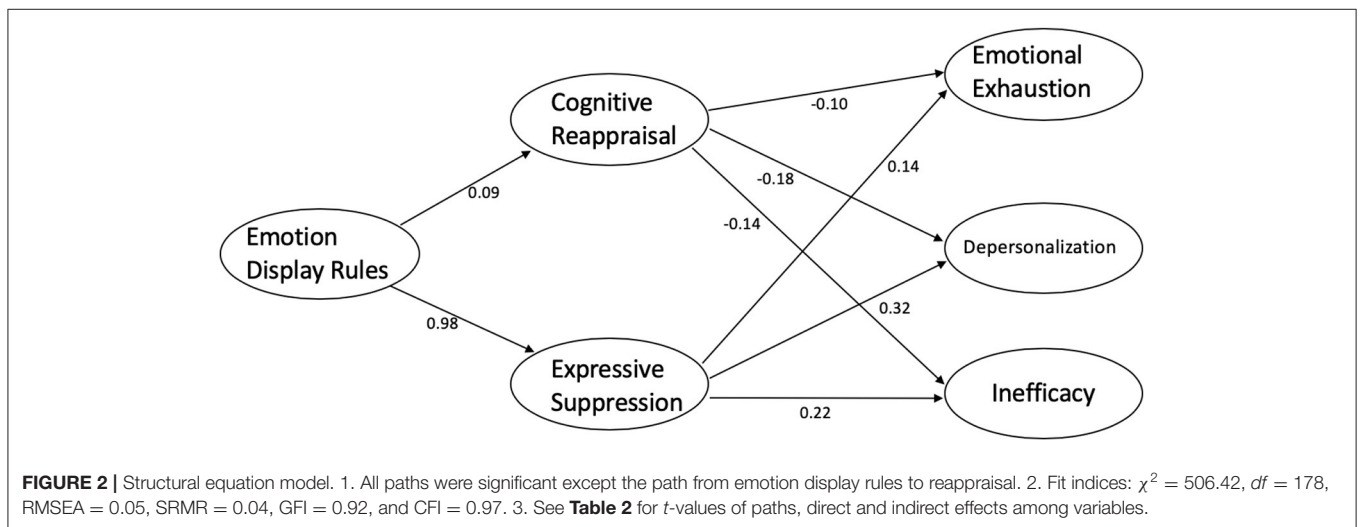
## DISCUSSION

Results from the present study indicated adherence to display rules are highly associated with teachers' suppression of their emotions in the classroom, and it has detrimental effects on teachers' well-being. Specifically, teachers who endorsed display rules (i.e., not to reveal true feelings to the students) are more likely to adopt expressive suppression as their habitual way to regulate emotions. This result validated previous qualitative studies conducted in exploring teacher emotions by Isenbarger and Zembylas (2006), and Sutton (2007), and the literature in the organizational psychology fields (Diefendorff and Greguras, 2009; Wang et al., 2011). However, our results are not consistent with the findings in Huang et al. (2019) in which display rule perceptions have a stronger relationship with deep acting than with surface acting. This might due to the conception of display rules of the present study is focusing on the negative display rules which is slightly different from the display rules in Huang et al. (2019).

In addition, the habitual uses of expressive suppression may contribute to teacher burnout in all three dimensions: emotional exhaustion, depersonalization, and inefficacy. The positive

**TABLE 2** | Standardized factor loadings for the items in the CFA models.

CFA models	Latent variable	Item	Factor loadings
Model 1 Display rules and emotion regulation strategies	Display rules	1. I think it is <i>inappropriate</i> for teachers to reveal their unpleasant emotions (i.e., anger, frustration, disappointment) in the classroom.	0.48
		2. It is necessary to hide my true feelings in the classroom.	0.66
		3. I would not reveal my true feelings to my students.	0.79
		4. I think it is <i>inappropriate</i> for teachers to reveal their true feelings in the classroom.	0.77
	Cognitive reappraisal	1. I control my emotions by changing the way I think about the situation I'm in.	0.79
		2. When I want to feel less of an <i>unpleasant</i> emotion (such as sadness or anger), I change the way I'm thinking about the situation.	0.80
		3. When I want to feel <i>less</i> of an <i>unpleasant</i> emotion, I change what I'm thinking about.	0.84
		4. When I want to feel more pleasant emotions (such as joy or amusement), I change the way I'm thinking about the situation.	0.83
	Expressive suppression	1. I keep my emotions to myself.	0.75
		2. I control my emotions by <i>not</i> expressing them.	0.69
		3. When I am feeling <i>unpleasant</i> emotions, I make sure <i>not</i> to express them.	0.69
	Model 2 Burnout	Emotional exhaustion	1. I feel emotionally drained by my work.
2. I felt used up at the end of a day at work.			0.89
3. When I finished work, I felt so tired I couldn't do anything else.			0.81
Depersonalization		1. I became less concerned about my students than I used to be.	0.78
		2. I tried to keep a distance to others including my colleagues and students.	0.67
		3. I did not really care what happened to some students.	0.72
Inefficacy		1. I did not feel confident about accomplishing my goals in teaching.	0.85
		2. I could not solve the problems that arose in my job.	0.75
		3. I did not think I made a meaningful contribution through my teaching job.	0.81



relationship between expressive suppression and emotional exhaustion echoes the results of prior studies on burnout among teachers by Chang (2013), Taxer and Frenzel (2015), and Tsouloupas et al. (2010) and among service workers (Grandey, 2003; Wang et al., 2011). The standardized coefficient ( $\beta = 0.13$ ) was only 0.01 higher than what Tsouloupas et al. (2010) found in their sample ( $\beta = 0.12$ ).

Moreover, among these three dimensions, depersonalization has the strongest association with uses of expressive suppression. This result is quite alarming because suppression not only is harmful to teachers' own well-being, it also makes teachers distance themselves from their students or become less concerned about their students than they used to be.

**TABLE 3** | Standardized direct effects, indirect effects, and total effects in the model.

Predictors	Outcome	Standardized estimates of direct effect	Standardized estimates of indirect effect	Standardized estimates of total effect
Display rules	Reappraisal	0.09 (ns)		0.09 (ns)
	Suppression	0.98		0.98
	Emotional exhaustion		0.12	0.12
	Depersonalization		0.29	0.29
	Inefficacy		0.21	0.21
Reappraisal	Emotional Exhaustion	-0.10		-0.10
	Depersonalization	-0.18		-0.18
	Inefficacy	-0.14		-0.14
Suppression	Emotional exhaustion	0.13		0.13
	Depersonalization	0.31		0.31
	Inefficacy	0.22		0.22

A non-significant path was noted as ns.

Although there was no significant association between teachers' adherence of classroom display rules with their cognitive reappraisals, cognitive reappraisals are found to be negatively associated with teacher burnout in all three dimensions: emotional exhaustion, depersonalization, and inefficacy. In other words, teachers who are more adaptive in changing the ways they view things in arousal events are also less likely experiencing burnout. The beneficial effects of cognitive reappraisal to mediate emotional exhaustion again echoes the results of prior studies on burnout among teachers by Tsouloupas et al. (2010) and Yin et al. (2016), and among service workers by Grandey (2003). Particularly, the standardized coefficient ( $\beta = -0.10$ ) was the same with what Tsouloupas et al. (2010) found in their sample. The positive results are also consistent with a recent study examining teacher's emotion regulation in the context of responding to student misbehavior. Teachers who reported high levels of reappraisal and low levels of suppression at the trait-level also exhibited the lowest level of anger and emotional exhaustion, and higher level of enjoyment in teaching (Chang and Taxer, 2020).

## LIMITATIONS

Although this study have several significant contributions to our understanding of how teacher beliefs shape their emotion regulation strategies, and how these strategies are related to their feelings of burnout, there are still some limitations in its design and analysis.

First, the present study is conducted with cross-sectional design by self-reported measures, and thus the results may be limited due to the common-method bias. Even though teachers are aware of their own beliefs and emotions, further research should use multiple sources (interviews, diary journals) to triangulate the results. Second, due to the nature of survey research, it is difficult to make any causal claims about the relationships among the variables. Future longitudinal or experimental designs might help clarify the causal relationships between constructs. Third, all of the participants were from a mid-western state of United States. The results may not

be applicable and be generalized to other diverse teacher populations. Interpretations of the findings should be treated with caution.

## CONCLUSION AND IMPLICATIONS

The present study have several significant contribution to the field of teacher emotion research. First of all, the empirical data validated that teacher's emotion regulation strategies is shaped by their beliefs about emotion display rules in the classroom. These display rules coming from their beliefs about classroom norms and culture and their roles as teachers shape how they respond to the emotions they feel in the daily encounters with students. These display rules are particularly influential to expressive suppression which also leads to all three dimensions of burnout. Limited support is provided to teachers to help them understand the emotional aspects of their jobs and use more adaptive strategies such as deep acting (Huang et al., 2019). Sutton (2007) argued that preservice and in-service teachers need to understand "the current psychological view that emotions are multi-componential, an essential part of productive adult life, and are important in understanding the goals we attain, rather than primitive and irrational (p. 271)." To promote teacher well-being, schools may provide mentoring or training through professional development on how to identify these display rules and help teachers understand how taxing these rules are in influencing teachers' emotion and emotion regulation in the classroom. Veteran teachers may know how to manage a classroom effectively using humor and the expression of positive emotions rather than a predominance of negative emotions. Programs aimed to improve employee mindfulness and emotional intelligence will be helpful for teachers (Alavinia and Ahmadzadeh, 2012; Pishghadam and Sahebjam, 2012; Huang et al., 2019). An intervention could be designed to help teachers be aware of the display rules they hold and debunk how these display rules might be detrimental to their well-being.

The school leaders should also promote an open and positive environment to encourage teachers to express genuine emotions and learn to positively re-appraise situations in the classroom



(Chang and Davis, 2009). Through a two-wave panel design and cross-lagged structural equation modeling, Burić et al. (2019) conducted a large scale study and examined reciprocal relations between discrete emotions and emotional labor strategies among 2,000+ teachers. It was found that love positively predicted deep acting and anger positively predicted hiding feelings and faking emotion over time. The opposite direction of association was also established—deep acting positively predicted joy, whereas hiding feelings positively predicted hopelessness. The authors concluded that:

Caring and loving teachers probably have more positive attitudes toward teaching and students and therefore are more tolerant and forgiving of students' failure and misbehavior. These teachers are more ready to reappraise and re-evaluate different classroom situations in order to evoke, maintain, or increase positive feelings toward teaching and students (Burić et al., 2019, p. 32).

Secondly, this study adds to the literature to reveal that cognitive reappraisal is negatively associated with depersonalization and inefficacy. Teachers who are inclined to change the ways they think about situations when faced with challenges are less likely to distance themselves from their students, and they also have stronger sense of efficacy. Particularly, interventions could be designed to help teachers engage in genuinely express or regulate negative emotions when faced with challenging situation in the classroom and to use more healthy ways to regulate emotions by using an antecedent focused emotion regulation strategy (Gross, 1998). Similarly, Lee et al. (2016) suggested that cognitive reappraisal or deep acting efforts would help teachers experience and express more positive emotions as compared with teachers who do not use reappraisal or deep acting. Teachers who reappraise may try to be optimistic, reevaluate or reinterpret the situation, and therefore reduce negative emotions.

While there is a growing body of research in emotion regulation among teachers in recent decades, literature in emotion regulation is even more rich and extensive in psychology field with several decades of research. Teachers could be introduced to the literature regarding effective reappraisals of events and could benefit from emotion regulation training. In a study of emotion regulation and age factor, Johnson et al. (2017) suggested that younger workers use surface acting more and as such are more emotionally exhausted whereas older workers use more anticipative deep acting and are therefore more engaged and feel more effective. The authors further recommended that employees at risk, for example those who use surface acting most often, should be identified and offered emotion regulation training. Through role-playing emotional labor strategies in typical customer interactions, employees could learn to distinguish between surface and deep acting (Goodwin et al., 2011).

For example, Cristea et al. (2012) conducted an intervention study with undergraduate students to explore how a more ecological form of reappraisal could be practiced through watching a distressful video, and subsequently practicing one of the reappraisal or control instructions. Through the intervention,

participants were able to practice using more effective reappraisal strategy. The purpose of reappraisal is not shifting from an emotional to an unemotional way of thinking. In the teaching context, this would hardly be a feasible objective, especially for teachers affected by vulnerabilities and dealing with challenging situations involved with children or youth. Cristea et al. contend that “the purpose of reappraisal is to shift from a dysfunctional emotional mode (e.g., depression), which is self-defeating and prevents the individual from attempting to pursue his or her goals, to a more functional one (e.g., sadness), which would still allow the person to engage in goal-directed behavior, albeit experiencing psychological discomfort (p. 551).”

In addition, promoting teachers' adaptive emotion regulation will also cultivate a healthier classroom environments. Fried (2011) stated “students school and classroom environments that are structured around opportunities for expressivity, teacher autonomy support and a sense of belonging...are conducive to the healthy development of student emotion regulation strategies (p. 122).” Research also indicates that student emotion regulation strategy use may be an important indicator of positive education outcomes. Fried suggested teachers can address the development of student antecedent emotion regulation in the classroom by modeling their own emotion regulation strategies that, in turn, may be used by students.

Perceptions and beliefs shape how teachers act in the classroom (Woolfolk Hoy et al., 2006). Emotion regulation strategies are results from habitual ways of emotional responses learned in early life as well as sociocultural norms, and as we grow older we may remember more positive emotions (Mauss et al., 2007; Chang, 2009b). It may not be easy to change teachers' habitual ways to regulate emotions, but it appears to be promising if we can work on teachers' beliefs about display rules and thus influence the habitual ways they regulate emotions. Accordingly, exploring practical ways that help teachers to detect and reframe their beliefs about display rules and to engage in cognitive reappraisal may be a worthy direction for future research and implications.

## DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

## ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Ohio State University. The patients/participants provided their written informed consent to participate in this study.

## AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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**Conflict of Interest:** The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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