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Teachers' Emotion Regulation in the Team-Taught Classroom: Insights Into Teachers' Perspectives on How to Regulate and Communicate Emotions With Regard to the Team Teaching Partner

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An important facet of teachers' competence is their ability to regulate their emotions in the classroom in an adaptive manner. Recently, the advantages of teacher collaboration have sparked novel educational practices, such as team teaching, where two teachers are responsible for classroom teaching. Within this setting of complex interactions, not only students but also partner teachers are additional sources of teachers' emotions and ensuing emotion regulation strategies. How team teachers choose to regulate and communicate their emotions, triggered by their team partners, may have significant consequences for collaborative practices and teacher well-being. Based on the process model on emotion regulation and the concepts of co- and shared regulation, the present study aimed to enhance our understanding of team teachers' perspectives on how to regulate and communicate emotions. To this end, a qualitative interview study was conducted among 30 Austrian team teachers teaching in lower secondary schools. The results of a structuring qualitative content analysis revealed that team teaching is an educational practice that requires high amounts of emotion regulation. It was shown that team teachers regularly use strategies such as attentional deployment or reappraisal to prevent the experience of negative emotions. Team teachers' rules regarding displays of emotion stipulated that positive emotions can be authentically shown, while negative emotions must be suppressed in front of students. Engaging in discussion with the partner teacher after class is frequently used to handle negative experiences. By making use of co- and shared regulation of emotions (e.g., situation modification), teachers also exploit the potential of team teaching concerning emotional support and workload

relief. Encouragement, (shared) praise, and shared humor were also considered to be useful strategies to maintain positive emotions in order to foster successful collaboration. Implications concerning adaptive emotion regulation to foster fruitful team teaching practices are discussed.

Keywords: emotion regulation, emotion display rules, emotion communication, teacher emotions, team teaching, teacher teams, emotion co-regulation, shared emotion regulation

INTRODUCTION

Teachers frequently experience emotions during teaching (e.g., Hargreaves, 1998; Frenzel et al., 2009b; Keller et al., 2014). These emotions are linked to important teacher outcomes, such as quality of instruction (Chen, 2018) and teacher well-being (Hagenauer and Hascher, 2018). To adequately respond to and perform well during emotional classroom situations, teachers need to deal with their emotions. For example, whether teachers decide to show their anger in an unregulated fashion, down-regulate the expression of anger, or try to hide it entirely is likely to have a significant impact on several outcomes (e.g., the teacher–student relationship). Like emotions themselves, teachers' chosen emotion regulation strategies are associated with the quality of instruction (Sutton et al., 2009; Burić and Frenzel, 2020) and both student (Braun et al., 2020) and teacher well-being (Chang, 2013; Yin et al., 2016; Burić and Frenzel, 2020). It was shown that teachers regularly apply emotion regulation strategies (Sutton, 2004; Taxer and Frenzel, 2015; Taxer and Gross, 2018), which are defined as "processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (Gross, 1998b, 275). Teachers' effective regulation of emotions is thus regarded as an important facet of their professional competence, as reflected in core models of teacher competencies (e.g., Baumert and Kunter, 2006; Kunter et al., 2013).

Emotions often occur in interaction processes in social settings (Parkinson et al., 2005); therefore, they are also an inherent feature of classroom teaching. Up to now, students have usually been considered as an important source of teachers' emotions during teaching (Frenzel, 2014; Becker et al., 2015) and ensuing emotion regulation strategies (Tsouloupas et al., 2010). Without question, the interaction with students in the classroom is a key emotion-triggering factor for teachers. However, interactions with students are not the only reason for teachers' emotions. Recently, novel, collaborative teaching practices, such as team teaching, have increasingly been regarded as advantageous for students and teachers (Vangrieken et al., 2015; see also Baeten and Simons, 2014, 2016 for student teachers). Within these collaborative settings, interaction processes in the classroom and teachers' emotional lives become more complex. In team teaching situations, for example, not only students but also partner teachers can be important sources of teachers' emotions and ensuing emotion regulation processes. It remains unclear whether team teachers regulate the emotions that are triggered by their team partners similarly to the emotions triggered by their students. It might be the case that teachers cannot simply transfer the emotion regulation strategies they use for handling emotions caused by students to the emotions caused by partner teachers. To equip teachers with the tools to adequately regulate and communicate their emotions, co-dependent on their teaching partners and team-taught classes, we need to enhance our understanding of team teachers' internal, co-regulation, and shared regulation strategies. In our paper, we use the terms "internal emotion regulation" and "self-regulation of emotions" interchangeably and thereby mean that people try to regulate their own emotions, using specific strategies. During co-regulation and shared regulation processes of emotions, at least two people are involved. We chose to focus specifically on the empirically neglected aspect of team partners as emotion-elicitors because the presence of the second teacher makes the team-taught setting, and likely also team teachers' emotions and emotion regulation strategies within this setting, unique. Indeed, theoretical grounding as well as empirical evidence on this specific facet of teachers' lives is still largely lacking. Therefore, this study seeks to examine teachers' emotional lives during team-taught lessons.

Team Teaching in the Classroom

As teacher collaboration can have advantages for students, teachers, and organizations, various forms of collaboration have increasingly become established within schools worldwide (Vangrieken et al., 2015). Regarding teachers, collaborative exchanges can enhance their professionalization and motivation and reduce their workload and levels of stress (Vangrieken et al., 2015; Reeves et al., 2017; Wolgast and Fischer, 2017). One specific collaborative teaching practice carried out within the classroom is team teaching. Team teaching means that two teachers are responsible for co-planning, co-instructing, co-evaluating, and co-assessing the same group of students in the same subject (Haas and Neurauter, 2017; Krammer et al., 2017, 2018). Team teaching can be practiced in various forms and settings, such as one teach–one observe, one teach–one assist, and teaming (e.g., Cook and Friend, 1995; Baeten and Simons, 2014). For team teaching to be successful, student teachers who team-taught during their practicum stressed the importance of exchanges and agreements (e.g., on work division, roles), relationship factors (e.g., shared views, support, cooperative attitude), and personality characteristics (e.g., openness, reliability, flexibility) (de Zordo et al., 2017). Therefore, effective team teaching can be challenging, as it requires close collaboration between

two teachers. In addition to having to deal with another individual and their emotions and behaviors, different views concerning classroom management or a lack of compatibility between (student) team teachers can also be emotionally challenging (Baeten and Simons, 2014; Simons and Baeten, 2016; Baeten et al., 2018). Because of this, team teachers wish to be included in the process of selecting their partner teachers (Vogt and Zumwald, 2012; Krammer et al., 2018). In fact, in a study among student teachers who engaged in team teaching in their practicum, de Zordo et al. (2019) found that student teachers who chose their team teaching partner showed a higher level of positive inclination toward collaboration after the practicum than those student teachers who were allocated a random team teaching partner. Due to organizational constraints, however, it is often not possible for team teachers to choose their team partners. Therefore, team partners might not be compatible and may have different views on collaboration, which might entail emotional challenges in the team.

The Process Model of Emotion Regulation and Its Application to the Teaching Context

Despite the fact that teachers regularly experience emotions while teaching, they are not passive recipients of these emotional experiences; rather, they can actively influence and control them behaviorally (e.g., by adapting their behavior) or cognitively (e.g., by changing their thoughts). When teachers influence their own emotions, this falls under the concept of internal emotion regulation or self-regulation. Emotions are often viewed as multi-dimensional constructs, consisting of an affective, physiological, cognitive, expressive, and motivational component (Scherer, 2005; Shuman and Scherer, 2014). There exists a plethora of possible strategies to deal with emotions. These can target single components or a combination thereof, such as using both deep breathing and suppression of one's display of anger to control the physiological and the expressive component. Engaging in discussion with someone about an emotional encounter can be allocated to the motivational as well as to the expressive dimension (openly showing and actively communicating one's emotions). According to Gross' (1998b, 1999, 2015) prominent process model of emotion regulation, people can actively influence their positive and negative emotional experiences with varying levels of awareness, effort, and control (Gross, 1998b, 1999; Gross and John, 2003). They can intervene at different stages of the emotion generation process: before, while, or after emotions are experienced (Gross, 1998b, 1999, 2015). The process model of emotion regulation (Gross, 1998b, 1999, 2015) distinguishes two broad categories of emotion regulation: antecedent-focused and response-focused strategies.

On the one hand, antecedent-focused strategies, also called preventative strategies (Sutton, 2004), help to bring about or hinder the generation of specific emotions before they are fully experienced. Overall, Gross (1998b, 1999, 2015) postulates four strategies: (a) situation selection, (b) situation modification, (c) attentional deployment (concentration, distraction, rumination), and (d) cognitive change (reappraisal). In situation selection, people decide which situations they will select and why they want to select them, based on which emotions are likely to arise during particular situations. This type requires self-knowledge and certain situation-specific expectations. Situation modification takes place when people decide to alter certain situations to avoid or bring about certain emotional states. To regulate their emotions, people can also re-shift their attention to different aspects of a certain situation. This can happen in the form of distraction, concentration, or rumination and falls under the category of attentional deployment. Cognitive change entails adjusting one's cognitions or evaluations; one form of this is reappraisal.

On the other hand, people can apply response-focused strategies (response modulation), also called responsive strategies (Sutton, 2004), while they are experiencing or after they have experienced certain emotions. Thus, emotions can be authentically displayed, up- or down-regulated, or suppressed. Inauthentically displaying emotions, including faking (i.e., showing unfelt emotions) and masking (i.e., hiding a certain emotion by showing an unfelt emotion), is also a means of managing emotions (Taxer and Gross, 2018). A person's decision to publicly show or hide their emotions is often guided by culture-dependent, internalized emotion display rules (Ekman et al., 1969; Ekman and Friesen, 1969). In this regard, teachers adhere to an "idealized emotion teacher image" (Sutton, 2004, 386–87), due to which they strive to act professionally, be role models, and be effective.

Taxer and Gross (2018) applied the process model to the "traditional" teaching context, in which one teacher is responsible for instructing students. In their study, elementary and secondary teachers from the United States reported most frequently using the response modulation strategy of suppression, followed by attentional deployment, cognitive change, situation modification, masking, and situation selection. They often described regulating their emotions when students were misbehaving (Taxer and Gross, 2018). However, teachers were also shown to frequently regulate positive emotions in the "traditional" classroom setting. Keller and Becker's (2018) results revealed that although German secondary teachers usually genuinely expressed enjoyment toward their students, they also up- or down-regulated it in one third of all lessons. Furthermore, teachers faked their enjoyment in more than half of all lessons (they displayed enjoyment although they did not feel it). In another study, teachers down-regulated their anger and frustration, and almost half of the participants reported regulating joy, humor, and excitement as well (Sutton, 2004). Similarly, Australian teacher educators in higher education reported that openly expressing positive emotions toward their students in teaching is suitable but entails person-specific boundaries; in contrast, the display of negative emotions should be controlled or fully suppressed in order to appear professional, be productive and effective, act as a role model, and form positive student–teacher relationships (Hagenauer and Volet, 2014). What is perceived as an appropriate emotion display from the teachers' perspective

varies greatly according to teachers' identities and cultural–educational contexts (e.g., Yin and Lee, 2012; Hagenauer et al., 2016; Chang, 2020; Stark and Bettini, 2021).

Adaptive and Maladaptive Emotion Regulation Strategies

The various emotion regulation strategies are distinct, with some generally considered to be adaptive and others maladaptive. For example, it was frequently found that reappraisal was healthier than suppression (e.g., Gross, 1998a; Gross and John, 2003), including among teachers (Tsouloupas et al., 2010; Yin et al., 2016; Chang, 2020). Braun et al. (2020) showed that teachers' reappraisal was positively linked to student well-being, whereas expressive suppression was associated with students having a less positive outlook. Taxer and Frenzel (2015) investigated the relationships between teacher self-efficacy, student–teacher relationships, teacher well-being, and teachers' emotion expression and regulation strategies, i.e., genuine expression, faking, and hiding (suppression). The genuine expression of positive emotions was positively linked to self-efficacy beliefs, positive student–teacher relationships, and well-being. In contrast, the genuine expression of anger, dislike, and boredom was negatively associated with self-efficacy and (along with helplessness) with student–teacher relatedness. The genuine expression of negative emotions was also negatively linked to well-being. Moreover, teachers frequently faked positive emotions, such as happiness, but rarely faked negative emotions; regardless, faking both positive and negative emotions was negatively related to teachers' well-being. Hiding negative emotions "showed negative relationships with teaching self-efficacy beliefs as well as with mental and physical health and a positive relationship with emotional exhaustion" (Taxer and Frenzel, 2015, 83), while hiding positive emotions showed no significant associations. Overall, anger stood out since genuinely expressing, faking, and hiding this emotion is suggested to be harmful (Taxer and Frenzel, 2015).

Furthermore, teachers' emotion regulation strategies were linked to other important classroom factors, such as teachers' instructional practices and student engagement (Burić and Frenzel, 2020). For example, it was found that the suppression of emotions was negatively correlated with teachers' quality of instruction. Conversely, the faking of emotions (e.g., enthusiasm) was shown to be positively associated with student engagement (Burić and Frenzel, 2020). Burić et al. (2021) further investigated teachers' emotion regulation strategies – authentic display (deep acting), suppression, and faking (both surface acting) – using a person-centered approach. They identified six different emotion regulation profiles and linked them to teachers' positive affect, motivation, and well-being. Teachers who regularly and most frequently used authentic display showed higher mean levels of the aforementioned outcomes. In contrast, teachers who regularly and most frequently used suppression had the lowest scores for positive affect, self-efficacy, work engagement, and job satisfaction (Burić et al., 2021).

Teachers' self-reported emotion regulation strategies could also be linked to students' perceptions of their teachers' emotions (Jiang et al., 2016). Teachers who reported using more antecedent-focused strategies, such as situation selection, situation modification, attentional deployment, and cognitive change (e.g., reappraisal), were perceived to express positive emotions (such as happiness, affection, tenderness, and inspiration) more frequently and negative emotions less frequently. One teacher who reported using suppression was perceived to express anger and annoyance rather often and to express positive emotions rarely. Jiang et al. (2016) therefore promoted strategies such as reappraisal, cautioning that "suppression can be ineffective in decreasing teachers' expression of negative emotions and is very likely to reduce their expression of positive emotions" (30), and advising teachers "to refrain from employing suppression as their emotion regulation strategy" (30). Similarly, Yin (2016) argued that teachers must be aware of potentially negative effects on their well-being caused by emotional dissonance through surface-acting strategies like pretending (i.e., faking and exaggerating emotions) and restraining (i.e., suppressing negative feelings). He also pointed to a possibly increased cognitive load through deep acting and promotes the strategy of genuine expression, kept within professional boundaries, which ensures emotional authenticity.

How to Use Co- and Shared Regulation of Emotions in Team-Taught Classes

Within the team teaching context, it can be assumed that team teachers frequently experience emotions in the classroom due to their team partner, which they need to regulate and communicate appropriately. While Gross' (1998b, 1999, 2015) model provides essential information about how people regulate their emotions individually (e.g., through cognitive restructuring), the theoretical considerations related to *co- and shared regulation* elucidate emotion regulation in collaborative settings. As our research focuses on the team teachers' emotion regulation strategies in a collaborative setting, both theories are required in order to adequately explain teacher emotion regulation strategies as individual processes *and* other directed and shared processes. In a team teaching setting, both teachers experience emotions, which may not be the same in all instances. In order to capture teachers' emotional lives within a team as realistically as possible, we rely on both the internal dimension of emotion regulation, i.e., team teachers' self-regulation, and the external dimension, i.e., team teachers' regulation of their partners' emotions and the mutual regulation of emotions.

Regarding the external dimension of emotion regulation (see also Zaki and Williams, 2013, who introduce the concept of extrinsic interpersonal emotion regulation), co-regulation needs to be distinguished from shared regulation. If teachers regulate the other teachers' emotions, "co-regulation" takes place. If both team teachers, however, regulate their emotions together, "shared regulation" is utilized. A clear definition of co-regulation is given by Järvenoja et al. (2019, p. 1749), who investigated emotion co-regulation at the group level among university students during collaborative and challenging tasks. They defined co-regulation as: "when the group members support their peers in regulating challenging situations, co-regulation is in effect." In our context,

emotion co-regulation means that one teacher makes an effort to influence the team partner to help this partner regulate the respective emotions. For example, if one teacher realizes that the team partner is fuming at an uncooperative student, he or she might try to calm the angry team partner down by whispering something into his or her ear. Co-regulation must not be equated with intrinsic interpersonal emotion regulation, which describes the regulation of the own emotions through social interactions (see To and Yin, 2021 for an example). By comparison, shared regulation means that people regulate their emotions through a common effort; so to say, this kind of regulation is two-sided in a team of two (Järvenoja and Järvelä, 2009; Gross, 2015). More concretely, shared regulation occurs when "some or all of the group members aim to regulate themselves together in order to reach a shared goal" (Järvenoja and Järvelä, 2009, 464). For example, mutual encouragement among two teachers in times of frustration or doubt can be regarded as an effort for shared emotion regulation. Thus, the main difference between the two concepts is that co-regulation of emotions requires a single person who tries to influence another person's emotions in order to achieve a certain goal, while shared regulation of emotions takes place when a group of people regulates their emotions collaboratively to attain common goals. Until now, co- and shared regulation of emotions have mostly been studied in collaborative learning settings among students (Järvenoja and Järvelä, 2009; Järvenoja et al., 2017, 2019; Mänty et al., 2020).

For our study, we transfer the concept of co- and shared emotion regulation from the collaborative learning to the collaborative teaching setting. We do so because we assume that collaborative learning, in which "individuals work toward a common objective, which requires them to define their aims and standards to create and work toward a shared goal by sharing responsibility for the learning process" (Järvenoja and Järvelä, 2009, 464), is sufficiently similar to collaborative teaching. Consequently, we suppose that co- and shared regulation of emotions also happens during team-taught lessons. The extent to which team teachers engage in self- and co- or shared regulation of emotions in relation to their team partners remains to be examined. Furthermore, there is a lack of evidence concerning specific strategies for co- and shared regulation of emotions in the team teaching context. For example, the extent to which individual emotion regulation strategies can be transferred to the context of co- and shared emotion regulation needs to be identified. More precisely, it might be the case that team teachers use strategies such as situation modification not only for themselves (internal regulation) but also as co-regulation strategies (e.g., by modifying the classroom situation to support the team partner). We therefore use Gross' (1998b, 1999, 2015) process model as a starting point, which we will apply to the context of co- and shared regulation.

Aim and Research Questions

As outlined in the previous sections, teachers need to regulate their emotions in team-taught classes in order to behave professionally in a team. The chosen regulation strategies may be more or less adaptive within a given situation. Little is currently known about the regulation of emotions triggered by a team teaching partner; this is particularly true regarding teachers' applied co- and shared regulation strategies. Therefore, the aim of this study is to explore in depth the self-, co-, and shared regulation strategies that team teachers utilize in team-taught classes.

More concretely, the following research questions are raised:

RQ1: How do team teachers regulate and communicate their own emotional experiences triggered by their team partners during team-taught lessons?

RQ 2:

(a) To what extent do team teachers co-regulate their team partners' emotional experiences, i.e., to what extend does one team teacher regulate the other teacher's emotions?

(b) To what extent do team teachers apply shared regulation of emotions during team-taught lessons, i.e., to what extent do team teachers regulate their emotions together in a common effort?

MATERIALS AND METHODS

Context and Participants

In Austrian middle schools, team teaching describes two teachers sharing responsibility for teaching the same subject in the same class together. Within this school type, team teaching became a compulsory educational practice in the core subjects – language of instruction (German), first foreign language (English), and mathematics – for grades 5–8 in 2012 (Altrichter et al., 2015; Petrovic and Svecnik, 2015). Team teaching was implemented to enhance differentiation and inclusion in the classroom and to expand opportunities for teachers to reflect on their teaching practices (Altrichter et al., 2015; Petrovic and Svecnik, 2015). Since the school year 2019/20, team teaching has been compulsory only in the first year (grade 5); for grades 6–8, schools can now choose whether they want to continue with team teaching or establish fixed ability groups (Austrian Federal Ministry of Education, Science and Research, 2021).

A purposive sampling strategy was used to recruit participants. An email invitation with brief information on the study was sent out to low-track, lower secondary school administrations within two federal states in Austria, with the request to forward the email to their teaching staff. Interested team teachers were then invited to approach the interviewer via phone or email.

Sample criteria prescribed that teachers needed to have at least one year of team teaching experience in a core subject and hold an academic degree for this subject. Thereby, we ensured that interviewees could recall several team teaching situations which included the experience of positive or negative emotions. Furthermore, by requiring participants to hold an academic degree, we wanted to exclude cases in which team teachers could not engage in teamwork on an equal level, which might also influence their emotional experiences during team-taught lessons. Moreover, participants were required to teach together with another specialist subject teacher. Teachers who team-taught with a teacher for special educational needs were excluded because special needs educators usually focus on specific students and their needs.

Altogether, 30 team teachers from 23 low-track, lower secondary schools (so-called *middle school*, grades 5–8) in Austria participated in this interview study. Of the 30 participants, 23 were female and seven were male teachers. This gender ratio roughly resembles that found within middle schools across Austria; in the school year 2019/20, 72.2% of all teachers were female and 27.8% were male (Statistik Austria, 2021). Interviewees were on average 43 years old (*SD* = 13.9 years; range: 24–63 years) and had an average of 7.2 years of team teaching experience (*SD* = 5.7 years; range: 1.2–25.5 years). Twelve teachers taught language of instruction and nine teachers taught first foreign language and mathematics, respectively.

Interviews and Procedure

Empirical research in the area of team teaching with a particular focus on emotion regulation strategies during team-taught lessons is scarce. By opting for a qualitative approach, we were able to capture concrete emotions and emotion regulation strategies used by team teachers in great detail and to account for the respective situation and context. Moreover, knowledge on team teachers' co-and shared regulation is limited, which adds another argument for using an explorative approach in this research.

In-depth, semi-structured interviews were utilized as the data collection method. A semi-structured interview guide on team teachers' emotion regulation strategies in the team-taught classroom was developed. The guide was pre-tested twice with two team teachers; the recordings of these pilot interviews were transcribed and analyzed together with experts in the field. The guide was adapted and finally included six main questions and several prompts about team teachers' emotion regulation strategies. The main questions can be found in **Supplementary Appendix A**.

The interviews were conducted online due to social distancing regulations during the COVID-19 pandemic. Participants could choose between several virtual meeting applications. Two separate devices were used to digitally record the interviews. Furthermore, before teachers participated in this study, they signed a written, informed consent form and a form with detailed information about the processing of their data.

At the beginning of the online meetings, the trained interviewer (first author) tried to establish a collegial atmosphere as a basis for open communication. She requested that interviewees focus on their team-taught subject and their partners for that subject only; if they happened to be a team teacher for two or more core subjects, they were asked to pick one subject and specifically mention if they talked about experiences with partners in other team-taught subjects. Moreover, the team teachers were asked to think only of their emotions and regulation strategies applied in the classroom; they were discouraged from focusing on preparation and follow-up meetings with their team partners. Interviewees were asked to openly and honestly talk about their team teaching experiences and emotions and were reminded that all information would be handled confidentially.

The interviewees were asked to recall and describe concrete situations in which they had experienced negative or positive emotions due to their team partners in the classroom and illustrate how they handled these emotional experiences. On a more general level, teachers were asked to explain how they usually handle the positive and negative emotions triggered by their partner teachers in and/or outside the classroom. Finally, they answered questions about whether they react to their partners' positive and negative emotions in the classroom and whether, when both partners feel either positive or negative emotions, they try to alter their classroom emotions together. When interviewees answered questions hastily or drifted away from the topic, the interviewer used prompts to lead them back to the focus of the question.

On average, the interviews lasted for 70 minutes (range: 52–91 min). They were transcribed verbatim in MAXQDA. All personal references, such as school names or names of team partners, were anonymized in the transcripts. In addition, participants' demographic data (including age, team teaching experience, and team-taught subjects) were collected and stored separately from the interview data.

As the interviews were conducted in German, the article quotes were translated by the first author, who holds a degree in English at level C2. They were also translated by another colleague, who holds an English degree at the same level. The translations were compared and differences were resolved through discussion.

Data Analysis

Structuring qualitative content analysis (Mayring, 2014, 2015) using the software MAXQDA was applied to analyze the data. First, emotion regulation strategies were deductively derived from Gross' (1998b, 1999, 2015) process model of emotion regulation, the theoretical concept of emotion display rules (Ekman and Friesen, 1969), and Järvenoja and Järvelä's (2009) research on co-regulation and shared regulation of emotions. During the coding process for the first half of the interviews, inductive categories were developed with the material close at hand, and the coding scheme was thus refined. Afterward, all the interviews were coded using the refined coding scheme. As a result of this process, the developed coding scheme consisted mainly of deductive categories, which relied on the concepts of internal emotion regulation (self-regulation), co-regulation, and shared regulation. The inductive categories mainly included insights on cognitive response (internal, response-focused emotion regulation), emotion communication (e.g., time and place, reasons for and manner of communication), and specific strategies for co-regulation and shared regulation (e.g., reinforcement, reassurance, and praise; shared humor/banter).

Regarding strategies for co- and shared regulation of emotions, we found some overlap in the types of strategies team teachers used. When the interviewees mentioned that they use strategies to influence their team partner's positive and negative emotions, we grouped these statements under co-regulation. Whenever they stated that the team uses strategies to regulate their emotions together, this was coded as shared regulation. For example, if both team partners discussed changing the lesson structure and then adapted the situation

(situation modification), we viewed this account as an instance of shared regulation, since both actors sought to change the circumstances and thereby control their emotions (e.g., anger). In contrast, if one team partner took the initiative and changed the situation (situation modification) because they felt that this would aid their team partner and their emotions (e.g., frustration), we grouped this under co-regulation of the team partner's emotions.

The final coding scheme consisted of 22 main categories and 44 subcategories. A large number of teachers frequently highlighted that they use emotion communication strategies not only inside but also outside of the classroom after the lesson. We decided to retain this aspect because the emotions that set off regulation were triggered in the classroom. Information on how the teachers handled the emotions after the lessons is important in order to understand whether these emotions triggered during the lesson remained unregulated or suppressed or if the regulation was done in a time-delayed manner. Two examples from the coding scheme can be found in **Table 1**. For a more extensive version of the coding scheme, see **Supplementary Appendix B**. The entire coding scheme is available upon email request to the first author.

One researcher (first author) coded all interviews. To calculate intercoder reliability, the first author and a second researcher coded four randomly selected interviews each (i.e., roughly 10% of the sample). As the interviews and coding scheme were quite lengthy, the first coder marked the passages that she had coded and let the second coder match the passages with the categories. Intercoder reliability was substantial, with a corrected Cohen's Kappa of 0.80 (Brennan and Prediger, 1981). Overall, 1116 passages were coded. 77 codes referred to antecedent-focused emotion regulation, and 791 codes concerned response-focused emotion regulation (of which 488 codes described emotion communication). 161 codes were set for emotion co-regulation and 87 codes for shared regulation of emotions.

RESULTS

In the following, our findings will be presented according to our two main research questions: First, we will illuminate team teachers' internal regulation strategies in the team-taught classroom, including antecedent- and response-focused strategies. Second, we will reveal to what extent team teachers use co- and shared regulation of emotions in the team-taught classroom.

Team Teachers' Internal Emotion Regulation Strategies

How Team Teachers Try to Avoid or Bring About Emotions

The team teachers reported that they apply four preventative regulatory strategies: situation selection, situation modification, attentional deployment, and reappraisal. These strategies were only addressed in relation to negative emotions.

Almost two-thirds of the team teachers (n = 20) talked about using the strategy *attentional deployment*. They noted that they focus their attention on a particular aspect of the team-taught classroom situation to hinder the generation of negative emotions, such as anger or boredom. They do so by shifting their concentration or distracting themselves. For example, in order to escape the feeling of boredom, the team teachers described actively searching for activities. Frequently employed strategies that teachers addressed included walking around the classroom, focusing on and trying to support individual or small groups of students, correcting students' homework or assignments, browsing through the schoolbook, and looking out of the window. One teacher stated that she hardly ever feels bored when she is not leading the lesson because she focuses and reflects on the students:

> *I mean, there are longer phases where he [the team partner] simply works alone with the children [. . .] and I am really only accompanying. But that's not boring for me, because then I have the time to observe the children from a completely different perspective, right, so that I see: how does he write? Or how do they take what he says? Or do they just copy it? You know, I reflect then on completely different things. I wouldn't consider that boring. [. . .] Not at all, it's just a different, simply a different perspective, a different look at it. (Interview 18, Pos. 75)*

Apart from attentional deployment, teachers also reported using *reappraisal* during team-taught lessons (n = 14); teachers cognitively re-evaluate or positively reframe their team partners' behavior or the team teaching situation to escape emotions such as anger, irritation, or boredom. One teacher, whose team partner would not allow her to be involved in a team-taught lesson despite her wishes, tried to look on the bright side:

> *And as I said, I always tried as much as possible- (.) or my way of dealing with it was probably to see it as positively as possible, to think to myself, 'Look [own first name], you didn't have to prepare anything; you're also getting paid. (.) Ha, no problem'. Well, I mean [laughs], worse things have happened. (Interview 1, Pos. 63)*

TABLE 1 | Examples from the coding scheme.

Strategy	Definition	Example
Internal, response-focused emotion regulation: authentic display of positive emotions	The team teacher describes authentically/genuinely expressing truly felt positive emotions in class, without any regulation.	I think I show them quite openly, because that's just the way I am, and I don't suppress my positive emotions. [. . .] So when I am happy about something, then I show that, I think, quite openly, I think. (Interview 1, Pos. 115)
Co-regulation of emotions: situation modification for negative emotions	The team teacher describes instances of co-regulating negative emotions by modifying the situation.	When you notice that someone is quite stressed, you try to say, 'Hey, now I'll take over' or something like that. Or, if you divide them [the students] up, you say, 'Now I'll take the ones that are more difficult'. (.) So that you can take pressure off of yourselves, and so on. (Interview 4, Pos. 140)

Situation modification is a further strategy applied by the team teachers (n = 3) to avoid the generation of negative emotions. This strategy was mentioned in reference to emotions such as anger, insecurity, and boredom. It included the team teachers' spontaneous decision to modify the team teaching situation, for example by changing who was responsible for leading the lesson.

A few team teachers mentioned the use of *situation selection* (n = 7). One teacher explained that (negative) emotions are less likely to arise when the team engages in good preparation and divides the tasks well. According to them, collaborative lesson planning can prevent negative emotions during lessons.

All of these strategies helped the team teachers prevent negative emotions that would have arisen due to their team partners in the classroom. However, the team teachers often reported feeling both positive and negative emotions in the classroom, triggered by their partner teachers.

How Team Teachers Deal With and Communicate Their Emotions in the Classroom

The accounts show that the team teachers' appraisals of their partner teachers' behavior in the team-taught classroom frequently lead to positive or negative emotions, which they consequently handled or whose expression they managed. We identified seven response-focused strategies that teachers performed in the team-taught setting: (a) authentic display, (b) suppression, (c) up-regulation, (d) down-regulation, (e) cognitive response, (f) inauthentic display, and (g) emotion communication. The seventh response-focused strategy, namely emotion communication, took place both inside and outside of the classroom. When the team teachers explained that they seek interaction with their partner teachers in order to regulate their own emotions, we understood this as internal, response-focused strategy.

Authentic Displays of Positive and Negative Emotions

All 30 team teachers regarded authentic displays of positive emotions, which occur due to their partner teachers in class, as appropriate and beneficial to the classroom atmosphere. Through both verbal (laughing, praising) and non-verbal channels (smiling, gesticulation), they freely express when they feel joyous, happy, content, or grateful because of their team partners. They also reported that they openly express feeling entertained, surprised (in a positive way), and appreciative in relation to their team partners:

> *Yes, [. . .] I have the feeling that I can show the positive ones in class, and I think they should definitely be shown, so it's no problem at all. (Interview 15, Pos. 86)*

In contrast, fewer team teachers noted that they authentically express negative emotions that arise due to their partner teachers (n = 14). Some pointed out that openly expressing negative emotions depends on the situation and whether the team partner is able to professionally deal with the negative display. Moreover, some team teachers explained that they show their negative emotions through body language or facial expressions (e.g., rolling their eyes) or that authentic displays of these emotions happen inadvertently. Emotions that were or could be shown explicitly were disappointment, insecurity, anger, boredom, and stress. In an exceptional case, one team teacher authentically expressed his boredom in the following way:

> *It happened to me once with a colleague in his class, when I was a bit overtired; I fell asleep. (.) So I think that's the—well, there's no more extreme way to show one's boredom. Basically, I try very hard not to show boredom, not even toward the children. (Interview 9, Pos. 71)*

Overall, expressing positive emotions triggered by team partners was regarded more favorably by the team teachers than openly expressing negative emotions, which the team teachers considered more carefully.

Suppression

The opposite display strategy of *authentic display* is *suppression* of emotions. Because the team teachers highlighted that they openly show their positive emotions in the classroom, none of them reported suppressing their positive feelings. However, all (n = 30) interviewees stated that they regularly hide their negative emotional experiences, triggered by their team partners, from their students. According to the team teachers, anger, dissatisfaction, boredom, and disappointment need to be hidden from students. Their reasons for putting aside their negative emotions include (a) wanting to appear professional, (b) acting as a team and transmitting shared goals, (c) not exposing or demeaning their partner teachers, and (d) not unnecessarily bothering students with conflicts between teachers, which could lead to a low-quality learning atmosphere. When asked why he hid his anger at his team partner, one teacher explained his emotion display rules as follows:

> *I have to say [laughs] as an addition that I would never show this against my team partner. If, for example, a pupil doesn't have a homework assignment, then I would react a bit more sharply with my voice and show it, because the pupil must also notice that what he has done is not good. So this really refers more to the-to team teaching, and I wouldn't show it [anger] there because I think it's unprofessional, because it doesn't belong in the lesson, but actually outside the lesson, and because I think that the students will certainly draw disadvantages from it if they think, 'the two teachers who are teaching me don't agree and don't get on well with each other.' (Interview 17, Pos. 67)*

This quote also illustrates that teachers had different display rules regarding students and partner teachers. Some teachers mentioned that students seem to have a sixth sense for recognizing conflicts and negative emotions between team teachers, which is why they try to conceal them even more. In fact, there was a broad consensus among the interviewed teachers that conflicts and negative emotions triggered by team partners must not be shown in front of students due to possible detrimental effects on the collaborative relationship and the students. However, they sometimes explained that suppression is only a short-term strategy within the concrete situation in the classroom; afterward, when they are outside the class, some of them discuss these negative situations and feelings with their partners.

Up- and Down-Regulation and Cognitive Response

Apart from authentic display and suppression, team teachers also influence their emotions by up- or down-regulating their experience or outward expression. However, the cases in which the interviewed teachers used these strategies were comparably rare. Regarding up-regulation, five teachers described up-regulating their joy, for example to encourage their partner teachers. Zero team teachers reported up-regulating negative emotions that they experienced because of their partner teachers.

Concerning the down-regulation of emotional experiences, 12 team teachers reported that negative emotions, such as anger, boredom, irritation, and insecurity, need to be controlled in some instances. One teacher's strategy was to cognitively talk to herself to calm down. The team teachers also down-regulated their positive emotions ($n = 6$). An English teacher, who described feeling joy because of her motivated team partner, handled her positive feelings as follows:

> *Yes, so it's like that, already in the role of the teacher, you simply show your emotions here in a very controlled way, I would say [. . .]. So I would also expect that from the team partner. So that's already so that I don't go totally overboard or, I don't know, act like I'm at a disco or something. (Interview 2, Pos. 49)*

Another strategy mentioned by one team teacher is cognitive response. She described that she manages her positive emotions by making a mental note of her team partner's supportive behavior and remembering it for future situations:

> *I store it [the positive emotion] away [laughs]. And then hopefully it serves as an amplifier of future actions. (Interview 5, Pos. 79)*

Inauthentic Emotion Display

In all of the previously illustrated instances, the team teachers described regulating positive and negative emotions that they experience due to their team partners. However, the team teachers also show emotions that they do not feel, which entails the masking or faking of emotions. Most of the teachers claimed that they do not express unfelt emotions or hide emotions by faking other emotions. Their reasons for not engaging in inauthentic displays of emotion are wanting to be authentic or being bad at pretending to feel emotions. Nonetheless, some team teachers ($n = 8$) admitted that they sometimes show positive emotions (e.g., feeling joyful, entertained, relaxed, and in agreement) instead of showing their true negative emotions (e.g., anger, disgust, and negative surprise), as the following quote unveils:

> *There are certainly (.) individual cases where (.) I don't want to hurt the teachers and maybe that's why I just [. . .] put on a bit of a fake smile, perhaps, so as not to hurt them. (Interview 5, Pos. 85)*

The findings of the internal, antecedent- and response-focused strategies, excluding emotion communication, are summarized in **Table 2**.

TABLE 2 | Internal emotion regulation strategies and absolute number of team teachers.

Valence of (ensuing) emotion	Internal emotion regulation – antecedent- and response-focused strategies	N
Positive	Situation selection	0
	Situation modification	0
	Attentional deployment	0
	Cognitive change (reappraisal)	0
	Authentic display	30
	Up-regulation	5
	Down-regulation	6
	Suppression	0
	Inauthentic display	8
	Cognitive response	1
Negative	Situation selection	7
	Situation modification	3
	Attentional deployment	20
	Cognitive change (reappraisal)	14
	Authentic display	14
	Up-regulation	0
	Down-regulation	12
	Suppression	30
	Inauthentic display	0
	Cognitive response	0

Communication Strategies

While many team teachers reported that they suppress negative emotions in class, some of them pointed out that they talk about these emotions afterward with their team partners. In the material, we identified several instances in which the team teachers communicated both their positive and negative emotional experiences with their partner teachers. Sometimes, the team teachers also chose not to talk about their feelings.

According to the team teachers, their decision to verbally address their emotions or emotion-inducing situations with their partner teachers depends on several factors. Often, the team teachers highlighted that the frequency and intensity of the emotion and the urgency or importance of the emotional situation play important roles in this decision. For example, the team teachers explained that they talk to their partner teachers about their negative emotions when they expect that the situation will occur repeatedly. They also verbalize them when they feel strong negative emotions, or when they believe that talking about them is urgent or important. In contrast, some teachers stated that they do not talk to their partners about smaller mistakes (and ensuing negative emotions).

In addition, the team teachers highlighted that their choice depends on the situation, their team partners, their partners' and their own personalities, their relationships with their team partners, the duration of collaboration, and the length of tenure. The team teachers explained that it is sometimes easier to talk about their emotions with some partner teachers than with others. This can depend on their team partners' personality (e.g., the team partner is open to honest feedback), their own personality (e.g., the teacher does not like to talk about emotions), and their relationships with their team partners (e.g., trust and

security within the relationship). One team teacher mentioned that the duration of collaboration with her partner teacher affects her choice to verbalize emotions:

> *If I know it's going to take longer. So it's a bit like- for a year I don't care. [. . .] If I know that this is something that will affect me for a longer period of time and that I absolutely have to get on with him, then I have to find a way to endure it. So that's also important. (Interview 11, Pos. 103)*

Tenure (i.e., whether a teacher is new to a school or is approaching retirement) can also affect team teachers' willingness to engage in discussions with their team partners. More specifically, team teachers at the start of their careers are more careful, while teachers who will retire shortly are more indifferent when talking about emotions. Another decisive factor in teachers' communication patterns is the expected consequence of the discourse; if they believe that it will lead to no changes or negative effects, the teachers explained that they do not engage in communication. When they expect positive consequences (e.g., emotional relief, enhanced well-being), they usually decide to communicate their emotions. Specifically regarding positive emotions, many team teachers described expressing these to their partner teachers as a sign of appreciation, praise, or positive reinforcement.

The team teachers also outlined several characteristics of emotion communication. They highlighted that the atmosphere in which negative emotions (i.e., anger, insecurity, stress, boredom, and shame) are communicated with their team partners should be appreciative and open. Communication should happen in the form of polite "I-messages" and in a timely manner.

Overall, 30 team teachers would hypothetically seek or have already sought interaction concerning their negative emotions or an emotional situation at least once. There was broad consensus among the thirty team teachers that negative emotions should be discussed with the team partner after the lesson (n = 27), as one English team teacher illustrated:

> *But if it would result in conflict [. . .], for example, then I would expect that this behavior is definitely not acted out in the lesson, but that, so to speak, that should take place very objectively afterward. (Interview 2, Pos. 23)*

Only nine team teachers explained that negative emotions can also be addressed during the lesson, although they specified that this should only be done in cases where it is absolutely necessary and in a way that students are unaware of it. Two team teachers explained that they talk about their (anticipated) negative emotions before the lesson.

Concerning the communication of positive emotions, the teachers' tendencies were different. The team teachers almost all reported that they communicate positive emotions, such as feeling grateful, joyful, entertained, admiring, or content, with their team partners both in and outside class, including in front of students. Overall, 27 team teachers sought verbal interaction with their team partner about their positive emotions in at least one instance. Two remaining team teachers clarified that they do not verbally address their positive emotions because they believe them to be evident from their facial expressions and gestures. One team teacher did not talk about communicating positive emotions to their partner teachers. Not all team teachers mentioned where or when they communicate their positive emotions, but the data shows that the team teachers equally do so within the lesson and afterward.

Table 3 shows the summary of the team teachers' emotion communication strategies.

Team Teachers' Co- and Shared Emotion Regulation Strategies

So far, the results have shown that team teachers apply a variety of emotion regulation strategies to regulate their emotions. The results have also revealed that the teachers have different views on how to appropriately communicate their emotions to their partner teachers. In the following, we shed light on the team teachers' reported co- and shared regulation strategies for emotions.

Co-regulation of Emotions

The team teachers mentioned that whether they engage in co-regulation of their partner teachers' emotions depends on the partner teacher and their collaborative relationship. One teacher explained:

> *But as I said, it's easier for me to do that with colleagues with whom I have a better connection than with the one [specific team partner] where it's just generally difficult, so I do it less. (Interview 15, Pos. 116)*

Regarding strategies to regulate team partners' negative emotions, one strategy that was frequently inherent in the data is *situation modification* (n = 25). The team teachers explained that when they or their partner teachers do not feel good, the other one can intervene. This includes taking over the lesson, filling in for their partner, resolving conflicts or defusing situations for their partner, and temporarily taking on more responsibility or

TABLE 3 | Emotion communication strategies and absolute number of team teachers.

Emotion communication	Valence of emotion	Location/time of communication	N
Communication			
	Positive		27
		In (front of) the class	10
		After the lesson	10
	Negative		30
		Before the lesson	2
		In (front of) the class	9
		Outside the class/after the lesson	27

The numbers concerning "location/time of communication" do not add up to 27 for communication of positive emotions and 30 for communication of negative emotions because not all team teachers specified where or when they generally communicate or communicated their emotions to their team partners. Moreover, a combination of locations (inside/outside the classroom) was also a possible option for describing one's communication pattern.

work. A mathematics teacher described modifying a situation for her colleague:

> *Yes, I also have a very confident colleague who is basically always in a good mood. And once or twice I've experienced that her patience was running out. In such situations, I try to support her by taking over with something. Or once it was even the case that there was an incident with the, with her class, [. . .] where it would actually have been her turn for a part of the lesson, where I then [. . .] had the opportunity to tell her [. . .], 'Hey, I notice that you're somehow off track right now. [. . .] So should I do this?' (Interview 6, Pos. 116)*

Other frequently mentioned strategies for co-regulation include talking about their partners' negative emotions or situations (n = 23) or offering emotional support (n = 17). For example, the team teachers try to clarify their partner teachers' negative emotions (e.g., preoccupation, anger) and their source (e.g., students, problems at home) in order to calm them down. The team teachers regularly pointed out that they try to support their partner teachers emotionally, for example by not downplaying their emotions, defending them, and being sensitive. Another strategy was described as perceiving and simply accepting a team partner's negative emotions:

> *What is much more difficult for me, however, is when someone is just really negative, because I (.) basically [. . .] just want to help them, because I want to see that the situation becomes less tense and then I would have to know why. If one person [. . .] simply needs a certain amount of peace and quiet, [. . .] then the other person has to give him this peace and quiet. (Interview 21, Pos. 95)*

Compared to the co-regulation of negative emotions, the team teachers did not describe many co-regulation strategies for positive emotions. The team teachers explained that they often reassure or praise their partner teachers to reinforce their positive emotions. Moreover, when they notice that their partner teachers are joyous or happy, they talk to them about their positive emotions.

Shared Regulation of Emotions

We found several strategies for team teachers' shared regulation of positive and negative emotions. When both team partners do not feel good, some teachers explained that they modify the situation (n = 10). This can happen through teachers using a more student-centered approach, as one teacher explained:

> *I think that (.) in the case that we both feel bad, we would handle it very professionally. We would probably [. . .] give the children work assignments, so that [. . .] the children work and we don't have to express our feelings [. . .] outwardly, so that that doesn't influence the work in the class. (Interview 22, Pos. 121)*

This strategy was mentioned by various teachers, who told students to work individually on a given topic to reduce the interaction between themselves and the students, so that the latter were not affected by the teachers' negative emotions. Sometimes, it also gave them time to talk about their negative emotions together (social exchange) and find an appropriate solution for dealing with them (n = 7).

The team teachers also described the use of emotion suppression in the team (n = 10). Some teachers expressed that when both team partners feel negative emotions, they must behave professionally by hiding these emotions from their students. Shared encouragement, to combat negative emotions, was also mentioned as a shared regulation strategy.

Finally, the team teachers also reported regulating their positive emotions in the team. One shared regulation strategy to maintain positive emotions in the team is shared praise and encouragement (n = 8). The dominant strategy is to engage in banter and shared humor (n = 16). By making jokes and laughing together, the team teachers are able to keep experiencing positive emotions. However, the team teachers noted that these exchanges need to stay within appropriate boundaries. The following quote shows that joking among team teachers is welcome in the classroom, but should not escalate:

> *I would rather show the positive ones openly, if it doesn't go to the extreme now and [. . .] I don't crack a joke every five minutes or so [laughs], so that no one can concentrate anymore. Then you have to [. . .] calm each other down. But, (.) yes, I think that [. . .] if you reinforce the positive feelings and don't let the negative feelings out too much during the lesson, then I think it creates a positive atmosphere. (Interview 17, Pos. 91)*

Finally, **Table 4** summarizes the results regarding co- and shared regulation strategies of team teachers.

DISCUSSION

The aim of this study was to explore team teachers' emotion regulation strategies in the team-taught classroom. More specifically, we investigated the extent to which team teachers regulate the positive and negative emotions triggered by the team teaching partners; that is, we explored team teachers' internal regulation strategies (RQ 1). Additionally, we examined how team teachers engage in co- and shared regulation of emotions (RQ 2). This study extends previous studies as it focuses on a specific teaching context that had largely been neglected – team teaching. Thereby, it includes team teachers' internal emotion regulation when interacting with their team partners, as well as teachers' perspectives on co- and shared emotion regulation when teaching together in class.

In a nutshell, our results showed that team teachers' strategies for handling their positive and negative emotional experiences with their partner teachers are manifold, ranging from situation modification and reappraisal to authentic display and suppression, as also discussed in Gross' (1998b, 1999, 2015) theoretical model of emotion regulation. The found emotion display rules for team teachers are mostly in line with those reported by individual teachers (e.g., Sutton, 2004; Sutton et al., 2009), reflecting teachers' tendency to authentically display or up-regulate positive emotions and down-regulate or suppress negative emotions. Finally, we identified several co- and shared regulation strategies for emotions in the team teaching setting, confirming the value of the concepts

TABLE 4 | Co- and shared emotion regulation strategies and absolute number of team teachers.

Emotion regulation	Valence of emotion	Strategy	N
Co-regulation			
	Positive	Reinforcement, reassurance, praise	10
	Negative	Situation modification	25
		Emotion communication	23
		Emotional support	17
		Perception and acceptance	5
Shared regulation			
	Positive	Shared humor/banter	16
		Shared encouragement/reinforcement/praise	8
	Negative	Situation modification (and reduction of interaction)	10
		Emotion communication (and problem solving)	7
		Suppression/down-regulation	10
		Encouragement/loyalty	5

of co- and shared regulation in the team teaching context (Järvenoja and Järvelä, 2009).

How Team Teachers Internally Regulate and Communicate Their Emotions

Gross' (1998b, 1999, 2015) process model of emotion regulation was applied to explore team teachers' internal antecedent- and response-focused emotion regulation strategies. Interestingly, regarding preventative strategies, our accounts only included strategies that the team teachers used to prevent the elicitation of negative emotions. It seems that the team teachers were more aware of actively using the latter strategies than using strategies which could foster positive emotions in the classroom. This seems plausible as workshops and training on emotion regulation frequently focus on how to deal with stress and other negative emotional experiences; they seldom address how to manage positive emotions (Kuhbandner and Schelhorn, 2020). Furthermore, the high prevalence of incidents requiring the regulation of negative emotions may also be explained by the human tendency to more strongly react to and remember negative events compared to positive events (e.g., Baumeister et al., 2001).

Concerning specific antecedent-focused strategies, attentional deployment and reappraisal were essential parts of the team teachers' regulatory activities. This might be because team teachers can easily apply these strategies themselves, whereas situation modification (e.g., changing the lesson structure) or situation selection (e.g., changing the team teaching model or the team partner) would entail efforts or discussion involving both teachers or changes on a structural level. The team teachers' regular use of antecedent-focused strategies, especially of reappraisal, can be evaluated positively, as reappraisal was shown to be linked to teachers' well-being and health (Tsouloupas et al., 2010; Yin et al., 2016). Moreover, Sheppes et al. (2011) found that attentional deployment is helpful for dealing with intense emotions. Although team teachers' emotions that occurred during team preparation processes were excluded from our study, many team teachers explained that high-quality team teaching starts with mutual and good preparation, through which potential pitfalls during the lesson can be avoided. If we follow this logic, team teachers may have to perform less emotion regulation in class if they engage in adequate lesson preparation in advance. This is in line with Sutton's (2004) finding that teachers prepare well in order to experience fewer problems in their lessons. Concerning situation selection, we hypothesize that this strategy is closely related to team teachers' ability to select their team partners. Vogt and Zumwald (2012), de Zordo et al. (2019), and Krammer et al. (2018) found that team teachers strongly wish to be included in the process of selecting their team partners. Their results indicated that self-selection of a team partner could lead to more positive and favorable emotions in the team teaching setting. However, due to organizational restraints, this kind of situation selection is relatively difficult to implement. If team teachers regularly experience negative emotions or conflicts due to their allocated team partners, it is likely that they will choose forms of team teaching with lower levels of collaboration, such as parallel or station teaching, in which they teach groups of students separately. Thereby, they do not exploit the full potential of team teaching, which minimizes the advantages of this educational practice, especially concerning internal differentiation (Altrichter et al., 2015; Petrovic and Svecnik, 2015).

Regarding response-focused emotion regulation strategies, the authentic display of mostly positive emotions and the suppression of negative emotions dominated in the interview accounts. This is in line with previous findings revealing that openly displaying positive emotions is a common display rule of emotions among teachers (Sutton, 2004; Sutton et al., 2009). Such open displays are associated with a positive classroom atmosphere (teacher–student relationships), quality of instruction (teacher self-efficacy), and teacher well-being (Taxer and Frenzel, 2015; Burić and Frenzel, 2020; Burić et al., 2021). The high incidence of emotion suppression appears worrisome at first glance, as research findings suggest that it is likely to be linked to reduced well-being (e.g., Gross and John, 2003; Chang,

2013; Taxer and Frenzel, 2015) and instructional quality (Burić and Frenzel, 2020). However, when prompted, the team teachers often explained that suppression was their short-term strategy in the classroom, used to hide team conflicts from their students, and was followed by long-term communication strategies. It needs to be determined whether short-term suppression is indeed harmful to team teachers' well-being. We argue that in this setting, team teachers need to weigh up the negative, possibly short-term consequences of suppression concerning well-being with the possible negative effects of openly displaying conflicts in the classroom. Suppression may be beneficial for team teachers as it helps them appear professional and as a team with shared goals in front of their students. It might be more important how team teachers cope with their negative emotions afterward, outside the classroom, and how they attain relief (Butler and Gross, 2004). One way in which the latter can be achieved is through emotion communication, which was frequently applied by the teachers. Our interview accounts showed that the team teachers were aware that their communication choices (e.g., time and place of communication, manner of communication) can have significant consequences for their team teaching relationships and collaborations. Moreover, as reflected in our accounts, the team teachers were sensitive to their context and varied their display of emotions (suppression versus authentic display) according to their physical location (inside versus outside the classroom). This echoes findings from Stark and Bettini (2021) regarding the context-specificity of display rules.

Both up- and down-regulation of emotions are also in line with teachers' general display rules; the team teachers tended to down-regulate negative and up-regulate positive emotions. Interestingly, not many team teachers inauthentically displayed (faked or masked) emotions toward their team partners. When they did, the reasons for this included shielding their partner teachers from embarrassment (e.g., masking dissatisfaction with a smile), maintaining a positive collaborative atmosphere in the team, or wanting to show mutual respect, which are supporting factors of successful team teaching, as suggested by Baeten and Simons (2014). Our findings are in slight contrast to Taxer and Frenzel's (2015) results, which found that teachers faked positive emotions (e.g., happiness, liking) but did not often fake negative emotions toward students. Therefore, it is possible that team teachers have different display rules concerning the faking of emotions toward students and team partners.

Supporting this argument, some interview accounts showed that the teachers more readily displayed negative emotions (such as anger) toward students (e.g., when they were misbehaving) than toward their team partners. Therefore, depending on the emotion-generating source (students or team partners), the team teachers decided how to portray their emotions in class. In the classroom, teachers' pedagogical aims, such as enhancing students' learning and motivation, might influence conflicts with the team partner if they are not supportive in achieving these goals. Drawing on this, we hypothesize that at times, team teaching can be more emotionally draining than individual teaching. This is because negative emotions, elicited by a team partner who hinders the attainment of pedagogical goals, need to be hidden from students and must not be authentically displayed, according to the teachers. This can consume additional emotional resources. Furthermore, the authentic display of negative emotions needs to be discussed in a more differentiated light in the team teaching context compared to individual teaching, as it often appeared in a time-delayed manner outside the classroom.

How Team Teachers Use Co- and Shared Regulation of Emotions

Concerning co-regulation and shared regulation of emotions, we elicited several strategies that team teachers use to regulate both their positive and negative emotions. Until now, evidence on this particular facet of team teachers' emotional lives was lacking. Our interviews showed that the team teachers' decision to engage in co- and shared regulation is context- and situation-dependent. Whereas the teachers' strategies for co- and shared regulation of negative emotions were more diverse (e.g., situation modification, reduction of interaction, problem solving, emotion communication, suppression), they did not describe a large variety of strategies for managing positive emotions (banter and shared humor, encouragement, and positive reinforcement). It seems that the team teachers felt more need to support their partner teachers in handling negative experiences.

Within a team, partner teachers can decide who is responsible for which part of teaching. As mentioned in several of our team teaching accounts of dealing with negative emotions, team teachers can support their partners emotionally, for example by taking over a lesson or temporarily taking on more work to unburden their team partners (situation modification), or by talking about their team partners' emotions (emotion communication). Thereby, team teachers exploit the advantages of team teaching, such as workload relief and emotional support (Baeten and Simons, 2014; Altrichter et al., 2015). The team teachers' strategies to suppress their negative emotions together reflect individual teachers' emotion display rule to hide negative emotions in the classroom (Sutton, 2004; Sutton et al., 2009). The teachers also modified the team teaching situation together (e.g., by moving from teacher-centered to student-centered tasks) and thereby reduced their interaction with students, which is another adaptive emotion regulation strategy for countering negative emotions. As a positive side effect, negative emotion transmission between students and teachers can thereby be inhibited (for the transmission of boredom, see Tam et al., 2020). By using shared humor and encouragement, the team teachers were able to maintain or even increase positive emotions within the team and the classroom. In this regard, team teachers' authentic display of positive emotions and possible transmission thereof in the classroom (Frenzel et al., 2009a, 2018) can positively affect the learning atmosphere (Fredrickson, 2001).

Limitations and Future Research

This study has some limitations. First, team teachers' emotion regulation strategies were not measured in real-life, team-taught classroom situations. Therefore, this exploratory, qualitative

interview study is characterized by teachers' retrospectivity, as they had to recall past emotion-eliciting situations or describe their general strategies for regulating emotions in the team teaching setting. We can therefore assume that most interviewees only remembered past situations that were especially salient at the time of the interview. Studies that measure team teachers' *in situ* emotion regulation strategies (e.g., experience-sampling studies) could paint a more situative picture of team teachers' emotional realities in the classroom (e.g., Keller et al., 2014).

Second, we must not ignore the possible selection bias among the participants, as teachers voluntarily participated in the study. This selection bias might be reflected in the fact that most interviewees reported favorable opinions on the educational practice of team teaching when asked whether they prefer teaching in a team or alone. Nevertheless, some teachers responded that they would choose solo over team teaching for several reasons (e.g., some team partners were too emotionally challenging, team partners were not equal, etc.). All of the participants were able to recall past situations in which they had experienced both positive and negative emotions because of their team partners, indicating that team teaching comes with a high variety of positive and negative emotions.

Third, our findings regarding the team teachers' co-regulation and shared regulation strategies must be interpreted with care. During co- and shared regulation processes, at least two actors are involved. In our study, however, we only interviewed one partner from a teaching team. Therefore, the accounts are biased in a way that the interviewees had to rely on their subjective interpretations of past situations with their team partners. Especially statements regarding shared regulation, which entails a conscious, common effort from both team teachers to regulate their emotions together, remain one-sided and can be viewed critically.

Fourth, the generalizability of our study is limited. Our findings must be transferred to other (cultural) settings with caution, especially because it has been shown that teachers' emotions, emotion regulation strategies, and display rules vary across teaching contexts and cultures (Hagenauer et al., 2016; Stark and Bettini, 2021).

Future studies should examine team teachers' regulation strategies in connection with discrete emotions, since teachers might choose different strategies for different emotions. For instance, Taxer and Frenzel (2015) showed that teachers express, fake, or hide discrete emotions of the same valence with different intensity. In line with this, team teachers may, for example, apply varying strategies for co-regulation, depending on whether their team partners experience anger, shame, or boredom. Moreover, follow-up studies on team teachers' co- and shared regulation strategies should also include information on the sources of team teachers' emotions, as this might also affect their choice of strategy. For example, it could make a difference whether team teachers' anger stems from problems at home or from a particular student during a team-taught lesson. Moreover, one may be more or less inclined to support a team partner in co-regulating negative emotions depending on the quality of the relationship with the partner. These assumptions need to be tested in future research.

CONCLUSION AND IMPLICATIONS

Research on team teachers' emotion regulation strategies is scarce. This is surprising, since collaboration among teachers, including in the form of team teaching, is increasingly being institutionalized and because emotions and emotion regulation are significantly associated with teaching quality and well-being (Sutton et al., 2009; Yin et al., 2016).

The results of the present study revealed that team teaching must be understood as an educational practice that requires high amounts of emotion regulation. Our accounts showed that team teachers' rules governing the display of emotions are often in line with those of individual teachers (Sutton, 2004). However, the team teachers were more sensitive to suppressing negative emotions triggered by their team partners. Although their frequent use of emotion suppression might be considered alarming, they need to weigh up the consequences of hiding negative emotions (including short-term harmful effects on individual, subjective well-being) or authentically displaying them (including long-term harmful effects on collaboration). We argue that it may be important how team teachers deal with their negative emotions after the lesson, when teachers can discuss an emotional encounter one-to-one. By making use of co- and shared regulation of emotions (e.g., situation modification and emotion communication), the teachers also exploited the advantages of team teaching, such as workload relief and emotional support. Encouragement, (shared) praise, and shared humor were also considered to be useful strategies to maintain positive emotions in order to foster successful team teaching practices.

Previous research has repeatedly shown that successful team teaching collaboration is a challenging endeavor. This is why several conditions for successful implementation have been proposed, including extra time resources for team teachers (Cook and Friend, 1995; Carless, 2006), preparatory training (e.g., Baeten and Simons, 2014), frequent exchanges, relationship factors (e.g., support, cooperative attitude), and personality characteristics (e.g., motivation, reliability) (de Zordo et al., 2017). Our research findings add important implications regarding emotion regulation: handling emotions in an appropriate manner in the team-taught classroom can be regarded as a significant condition for teachers' well-being and fruitful teamwork. For example, if two team partners have similar expectations regarding the appropriateness of displaying emotions in class (e.g., adhering to the rule that conflicts are hidden from students, while positive emotions are communicated and displayed in the classroom), this might lead to satisfaction within the team. This shared understanding of professional behavior in team-taught classes is likely to enhance the relationship between the teachers, the quality of the team teaching, and ultimately the quality of instruction. Curricula in teacher education as well as courses for the professional development of in-service teachers should, therefore, consider the topic of adaptive emotion regulation and appropriate displays of emotion more thoroughly. Furthermore, training on how to support team partners in handling emotional experiences should be implemented. Such training could raise team teachers'

awareness of how they can best support each other with co- and shared regulation of emotions.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because they currently form an essential part of the first author's qualification phase. Requests to access the datasets should be directed to FM, franziska.muehlbacher@plus.ac.at.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

FM conceptualized, planned, and conducted the study. GH and MK closely assisted in the process and in writing the manuscript. All authors contributed to the article and approved the submitted version.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/feduc.2022.787224/full#supplementary-material

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