Beliefs about Autonomy Support and Control in the Classroom: An Examination of Montessori and Traditional U.S. Public School Teachers

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Abstract: Montessori education is characterized by autonomous learning, whereas traditional education is often depicted by high structure and fewer choice opportunities. This study examined differences in beliefs of Montessori and traditional teachers in regard to effectiveness, normality, and ease of autonomy-supportive and controlling teaching, as well as differences in motivating styles. We analyzed the U.S. subset from an international study examining self-described motivation styles and beliefs. Our secondary analysis revealed both groups felt autonomy-supportive teaching was easy and effective, and that they found controlling teaching also to be easy, but ineffective. Montessori teachers were more likely to believe autonomy-supportive teaching was normal, whereas traditional teachers believed controlling teaching was more normal. Both groups described their teaching style as autonomy-supportive, but traditional teachers more often rated controlling scenarios as similar to their own practices. These differences, supported by large effect sizes, demonstrate more potential for controlling behavior in traditional classrooms and suggest the possibility of a cultural difference between Montessori and traditional teachers.

Within the context of U.S. public schools, Montessori and traditional educators work in contrasting environments and teach students in markedly contrasting ways. Montessori teachers foster intrinsic motivation so students will be naturally inclined to seek out knowledge (American Montessori Society [AMS], n.d.). Montessori students learn in multi-age classrooms and work independently much of the day (Lillard, 2019). In contrast, traditional public school teachers are more likely to use whole-class instruction, have high levels of structure and performance expectations, and provide fewer opportunities for students to make choices (Lillard, 2019). A study of high school classrooms in traditional U.S. schools found that these students spent a majority of classroom time listening to lectures, watching videos, or engaging in a variety of other passive activities, including time when the teacher took attendance or managed technology, or while a student reported on the school's daily activities (Fisher, 2009). Observations from more than 2,500 classrooms in more than 1,000 traditional elementary schools demonstrated that students in first, third, and fifth grades spent more than 90% of their time in whole-group instruction or individual seatwork, with fifth graders receiving five times more instruction devoted to basic skills than to higher-order skills, such as critical thinking and reasoning (Pianta et al., 2007). These students experienced minimal collaborative work or small-group instruction.

In contrast, another study showed that Montessori middle school students reported more time spent in collaborative activities and individual projects, whereas traditionally educated students reported spending more time in teacher-directed activities and socializing with peers (Rathunde & Csikszentmihalyi, 2005). Montessori students also work with specially designed didactic materials intended to foster internalization of learning, whereas traditional students spend more time doing schoolwork on paper to create artifacts of their learning (Manner, 2007).

As Montessori and traditional teachers experience dissimilar types of educator preparation, any discussion of their perspectives on autonomy support and control in the classroom must consider their teacher training. Although it is beyond the scope of this paper to undertake a complete analysis of traditional and Montessori teacher training, key differences are worthy of note. One difference is the cohesiveness of the training teachers obtain. In traditional programs, teacher candidates progress through their collegiate courses with little connection between the course content and its future classroom applications (Nguyen, 2018). However, in Montessori training, future teachers master the course curriculum and content while simultaneously focusing on how it relates to a child's holistic development (Cossentino, 2009). In addition, Montessori training seeks to transform the adult student, too, replacing common behaviors, such as pride and anger, with virtues like humility and patience, while also fostering cooperation and joy among young students (Christensen, 2019).

The current study uses self-determination theory (SDT; Ryan & Deci, 2017) to examine motivational beliefs of traditional and Montessori public school teachers. Analysis was conducted of the U.S. subset from a previously published international study (Reeve et al., 2014) that examined self-described motivation styles and beliefs from teachers in eight cultures. The goal of the initial study was to investigate how teachers' motivating styles would be predicted by how effective, easy to implement, and normal autonomy-supportive and controlling teaching were believed to be. The initial study investigated these beliefs within the context of the eight cultures from which the samples were collected, based on national collectivism–individualism (Reeve et al., 2014).

The U.S. subset was collected from Montessori public schools and traditional public schools but was combined within an international context for analyses once the model for national collectivism–individualism was selected (Reeve, personal communication, May 2011). Because the two U.S. samples were collected from one nation, analyzing them separately with a national collectivism–individualism lens would have introduced a confound, so the sample was combined.

However, three developments warrant further research on this U.S. sample data set. First, scholars have recently identified ways Montessori education aligns with SDT (Basargekar & Lillard, 2023; Lillard, 2019) and have issued calls for additional empirical examinations of the relationship between Montessori education and SDT (Moss & Smuda, 2022). Second, research has been published regarding benefits to not only students but also teachers through autonomy-supportive teaching. According to Cheon et al. (2020), benefits to instructors include enhanced student-teacher relationships, better classroom engagement from students, and an increased sense of professional competence. Third, researchers are better understanding the detriments to students that arise from controlling teaching, to include student amotivation, anger, anxiety, and oppositional defiant behaviors (Assor et al., 2005; Haerens et al., 2015).

SDT (Ryan & Deci, 2017) posits that humans have three basic psychological needs: autonomy, relatedness, and competence. Autonomy refers to the human need for volition. Relatedness points to the need for a sense of belonging and connectedness. Competence describes the need for successful interactions with one's environment. Considerable works demonstrate the benefits of self-determination in the classroom, especially in that autonomy-supportive teaching satisfies students' basic psychological needs (e.g., Cheon et al., 2014; Katz & Shahar, 2015; Reeve et al., 2004).

A teacher who supports student autonomy will work to understand student perspectives, encourage positive emotions and behaviors, and support student self-regulation. A teacher who uses controlling methods to manage a classroom will likely consider only their own perspective, undermine student motivation with "should" or "must" statements, and pressure students to behave in certain ways (Reeve, 2009, 2016).

According to self-determination theorists Deci et al. (1982) and Reeve (2009), teachers might adopt controlling behaviors for a number of reasons, including pressure from the demands of standardized testing, or the beliefs that control is valued culturally or that extrinsic rewards increase student performance. Although these methods may work in the short term, controlling teacher behaviors ultimately undermine intrinsic motivation (Ames, 1992; Basten et al., 2014; Reeve, 2016), foster ill-being and negative affect (Assor et al., 2005; Bartholomew et al., 2011; Reeve, 2016; Soenens et al., 2012), and thwart needs for autonomy, relatedness, and competence (Bartholomew et al., 2011; Hein et al., 2015; Reeve, 2016).

As previously mentioned, there has been an increase in literature describing the similar perspectives held by Montessori education and SDT. In 2019, Lillard identified the similarities by pointing out that students in a Montessori classroom freely choose between work in the classroom and opportunities to engage in meaningful work with peers. She also points out that a Montessori classroom fosters students' intrinsic motivation, which encourages the self-satisfaction of a job well done, rather than addressing their behavior with extrinsic punishments and rewards.

Basargekar and Lillard (2023) continued this theme by identifying specific ways Montessori classrooms meet the basic psychological needs presented by SDT. Autonomy is promoted by offering choices, but not every work is available as a choice in the classroom.

Montessori students are free to choose activities they have previously received lessons on (Basargekar & Lillard, 2023), dovetailing seamlessly with SDT's concept of autonomy within a structure (Jang et al., 2006). Teachers in the Montessori environment support students' sense of competence through structured choices, ensuring that students actually engage in work in which they can be successful. The need for relatedness is addressed by removing judgment from the classroom. Montessori teachers do not give grades and, when students misbehave, teachers are trained to view the transgression as a fault of the environment, not the child (Basargekar & Lillard, 2023).

Along with a growing trend of research articles addressing Montessori education in general (Lillard, 2019), several published papers and student dissertations or theses discuss the similarities between Montessori education and SDT (Casquejo Johnston, 2016; Krugerud, 2015; Wells, 2014). A systematic review found 42 papers that referenced both Montessori education and SDT, including 23 unpublished student papers and 19 published articles. Of those papers, only 13 took an investigative approach to both theories, whereas the remaining papers merely referenced one or both theories, and of those, only three were published articles (Moss & Smuda, 2022). Although many authors acknowledge the alignment between SDT and Montessori education, there has been scant empirical investigation involving both theories. This lack of empirical work motivated us to return to our existing data set.

Given the differences noted between Montessori and traditional education, along with the differences between autonomy-supportive teaching and controlling teaching more generally, we began an investigation with this secondary data set. In the initial analyses, it was apparent that traditional and Montessori teachers endorsed autonomy at similar levels (Reeve et al., 2014). As we began our secondary analysis, we believed that in an international context of the initial investigation, these U.S. teachers may have appeared to have more similarities than differences. However, examining them side by side would provide a more fine-grained analysis and highlight areas of divergence.

An additional and important rationale for the value of this study is that very few studies compare Montessori and traditional teachers, whether their environment is public or private. Rathunde and Csikszentmihalyi's influential study (2005) focuses on middle school students in both environments. Lopata et al. (2005)

examined academic achievement of students in Montessori and traditional programs. Studies examining student-level social and cognitive skills, academic outcomes, levels of activity, and self-esteem are readily available (e.g., Byun et al., 2013; Dhiksha & Suresh, 2016; Flynn, 1991; Lillard & Else-Quest, 2005; Mallett & Schroeder, 2015). Few articles, however, compare the two types of teachers; notable exceptions include work by Beatty (2011), who studied teachers in Frobelian settings and Montessori classrooms as well as those in traditional environments, and Danner and Fowler (2015), who investigated traditional and Montessori teachers' attitudes toward the inclusion of disabled children in their classrooms.

In reviewing this U.S. data set, the first hypothesis was that the teacher type, Montessori or traditional, would predict teachers' beliefs about the ease, effectiveness, and normality of autonomy-supportive teaching and controlling teaching. Our second hypothesis was that the teacher type would be correlated to the teacher's description of their personal teaching style, whether autonomy-supportive or controlling.

Methods
Sampling
For the U.S. sample being analyzed, as well as for the other countries included in the initial international data set, convenience sampling was used to recruit participants. U.S. participants were recruited by emails sent to their school accounts or via in-person conversations gauging interest in participating in the study. Those who indicated interest were approached again with the survey and consent forms. For participants who were local to the researcher, signed consent was obtained in person, and likewise surveys were delivered to participants and then returned to the researcher in person. For participants who were not local, a consent form was mailed with the survey, along with an addressed, stamped envelope for their return to the researcher.

Each participant from the United States who completed the survey was given a thank-you gift card worth $20 for a national mass-market retailer. The participants from other countries in the larger, original sample had been either recruited at conferences and not provided with thank-you gifts, or recruited in a way similar to the U.S. sample and provided with a gift card equivalent to $20. Analyses determined that in the larger study (Reeve et al., 2014) no differences were apparent among the data from teachers who received thank-you gifts and those who did not.

Participants
Our data set included 80 U.S. public school teachers, 39 from traditional public schools and 41 from public Montessori schools. In aggregate, 73 teachers identified as female and seven as male. Seventy teachers described their school settings as urban, while the remainder described their schools as suburban or rural. On average, teachers were 41 years old ($M = 41.17$, $SD = 11.66$) and had nearly 14 years of teaching experience ($M = 13.84$, $SD = 9.72$). Most teachers identified as White ($n = 73$), while the rest identified as Black, Hispanic, or Native American. To help protect these teachers' identities, participant numbers for these groups are not shared. The teachers were from several states but mainly the Upper Midwest. Teaching levels included 23 preschool/kindergarten, 39 elementary, five middle school, and 12 high school.

Among the Montessori teachers, three identified as male and 38 as female. Thirty-seven identified as White. To aid in maintaining participant anonymity, the remaining teachers' ethnicities are not shared. The Montessori teachers' age range was from 25 to 67 ($M = 42.26$, $SD = 12.57$), with two teachers declining to report their ages. Teaching experience ranged from 1 year to 36 years, ($M = 14.00$, $SD = 10.12$), with one teacher not reporting years of experience. As for the levels these teachers taught, 18 taught preschool (primary in a Montessori setting), 21 taught elementary, and two taught middle school. Forty teachers described their locations as urban, and one described their location as suburban.

Among the traditional teachers, four identified as male and 35 as female. Thirty-six teachers identified as White, and the remaining ethnicities are not shared. Range of ages among the traditional teachers was 23 years old to 62 years old ($M = 40.07$, $SD = 10.70$). Years of experience ranged from 2 years to 34 years ($M = 13.67$; $SD = 9.41$). Traditional teachers included five from preschool, 18 from elementary, three from middle school, and 12 from high school, with one not identified (see Table 1).

Upon examining the sample, it was discovered that none of the personal demographics, such as age, ethnicity, experience, or location of school, were significantly related to variables of interest.

Measures
All participants completed a demographic survey and, afterward, a two-part scenario-based questionnaire. Questionnaires were counterbalanced

Table 1

Demographics for Montessori and Traditional Teachers

Type of Teacher	N	Mean Age	*SD* Age	Female	Mean Experience	*SD* Experience	White	Location	Level
Montessori	41	42.26	12.6	38	14	10.1	n = 37	urban = 40	preschool = 18
								suburban = 1	elementary = 21
								rural = 0	middle school = 2
									high school = 0
Traditional	39	40.07	10.7	35	13.67	9.41	n = 36	urban = 30	preschool = 5
								suburban = 8	elementary = 18
								rural = 1	middle school = 3
									high school = 12
									Not identified = 1

so the participants received either the controlling or autonomy-supportive scenario first. In the questionnaire, two scenarios were described. An excerpt from each scenario is printed below:

> **Autonomy-supportive scenario**
> *As you plan and prepare for an upcoming lesson, you think about what your students want and need. You wonder if students will find the lesson interesting and relevant to their lives. To support their interest and valuing of the lesson, you prepare some resources in advance so that they can see how interesting and how important the lesson truly is.*

> **Controlling scenario**
> *As you plan and prepare for an upcoming lesson, you think about what needs to be covered. You make a step-by-step plan of what students are supposed to do and when they are supposed to do it. As the class period begins, you tell students what to do, monitor their compliance closely, and when needed make it clear that there is no time to waste.*

After reading each scenario, teachers rated the degree to which the scenario described their own teaching, from 1 (*not at all*) to 7 (*yes or very much*). Then they completed six questions to rate the degree to which they felt the teaching scenario presented was effective, easy to implement, and normative on a 7-point Likert-type scale,

ranging from 1 (*no or not at all*) to 7 (*yes or very much*). These questions included, "Does this teaching scenario describe what the other teachers you know and work with do as teachers?" to assess the level at which the participant felt the scenario was normative and, "Can most teachers teach this way, or is this approach to teaching simply asking too much of teachers?" to assess ease.

To establish ecological validity, the two scenarios in the measure describe common occurrences in classrooms (Reeve et al., 2014). As the data being analyzed are from the original publication of the measure, the reliability was established by having seven raters, experts in SDT, assess the two scenarios to ascertain that one described autonomy-supportive teaching and the other described controlling teaching. Raters were asked to use a 7-point Likert-type scale, in which 1 represented *highly controlling* and 7 represented *highly autonomy-supportive*. Analysis of those responses found the average rating for the controlling scenario was 1.43, the average for the autonomy-supportive scenario was 6.86, and the difference was statistically significant at $p < .01$ (Reeve et al., 2014). To ensure reliability with the sample, Cronbach's alpha reliability on the autonomy-supportive and controlling scale items were calculated by teacher types. For both teacher types, and for the autonomy and controlling scales, the Cronbach's alpha reliability was between .70 and .88 respectively, indicating the measure was reliable with this subset of the larger sample.

Table 2

Descriptive Statistics and One-Way Analyses of Variance of Perceptions on Ease, Effectiveness, and Normality of Autonomy-Supportive or Controlling Teaching Scenarios between Montessori and Traditional Teachers

Variable	Montessori			Traditional			$F(1, 78)$	p	η^2	95% CI
	N	M	SD	N	M	SD				
Autonomy Support Ease	41	4.42	1.26	39	4.32	1.04	0.13	.716	-	[-0.30, 0.21]
Autonomy Support Effectiveness	41	6.05	0.93	39	5.90	1.03	0.48	.492	-	[-0.29, 0.14]
Autonomy Support Normality	41	4.94	1.41	39	3.64	1.23	19.30	< .001	0.20	[-0.94, -0.36]
Controlling Ease	41	5.02	1.42	39	5.46	1.13	2.30	.134	-	[-0.07, 0.51]
Controlling Effectiveness	41	3.02	1.38	39	3.49	1.20	2.55	.114	-	[-0.06, 0.52]
Controlling Normality	41	3.26	1.48	39	5.21	1.13	43.57	< .001	0.36	[0.68, 1.27]

Analysis

To compare the two sets of data from the U.S. sample, the Montessori and traditional teachers, we ran eight separate two-group one-way ANOVA tests with IBM SPSS Statistics 25. Each ANOVA used teacher type (i.e., traditional or Montessori teachers) as the independent variable. However, the dependent variable for each ANOVA was different across several separate analyses. Specifically, our dependent variables are beliefs about autonomy-supportive teaching ease, effectiveness, and normality; beliefs about controlling teaching ease, effectiveness, and normality; self-reported personal autonomy-supportive teaching style; and self-reported personal controlling teaching style. Due to the number of comparisons, the *p*-value was adjusted to < .006 to control for the possibility of inflated Type I error. This significance threshold was selected based on dividing a commonly accepted *p* value of .05 by eight comparisons to obtain a cutoff for determining significance (Herzog et al., 2019).

## Results

Hypothesis One:

Descriptive statistics and ANOVA results for hypotheses one and two are presented in Table 2. To explore overall differences in the perceptions of ease, effectiveness, and normality of autonomy-supportive (see Figure 1) and controlling scenarios (See Figure 2)

between Montessori and traditional teachers, six separate two-group one-way ANOVAs were conducted. Of the six analyses (see Table 2), the only tests yielding significance were in perceptions of autonomy normality, $F(1, 78)$ = 19.30, $p < .001$, $\eta^2 = 0.20$, 95% CI: -0.94 to -0.36, and perceptions of controlling normality, $F(1, 78) = 43.57$, $p < .001$, $\eta^2 = 0.36$, 95% CI: 0.68 to 1.27. Indeed, Montessori teachers perceived the autonomy-supportive scenario as significantly more normal than did traditional teachers. Conversely, traditional teachers perceived the controlling scenario as significantly more normal than did Montessori teachers .

Hypothesis Two:

To explore differences in teachers' descriptions of their personal teaching styles by type of teacher training (traditional or Montessori teachers; see Figure 3), two separate two-group one-way ANOVAs were conducted. The first analysis of variance observed differences in Montessori and traditional teachers' perceptions of their personal styles as related to autonomy-supportive, and the second analysis observed differences in perceptions of their personal styles in relation to controlling teaching. No significant difference was found between the two teacher types (Montessori teachers: $N = 41$, $M = 5.22$, $SD = 1.53$; traditional teachers: $N = 39$, $M = 4.97$, $SD = 1.35$) regarding their descriptions of their personal teaching styles as autonomy-supportive, $F(1, 78) = 0.58$,
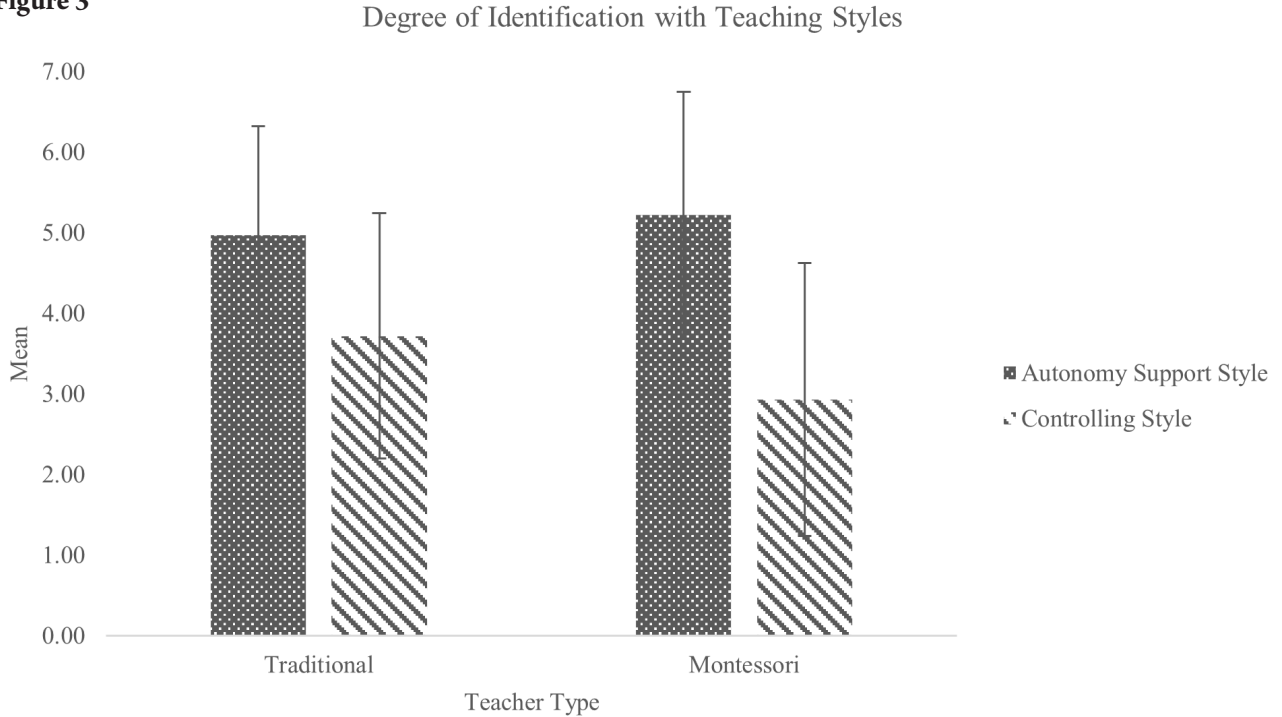
Figure 1
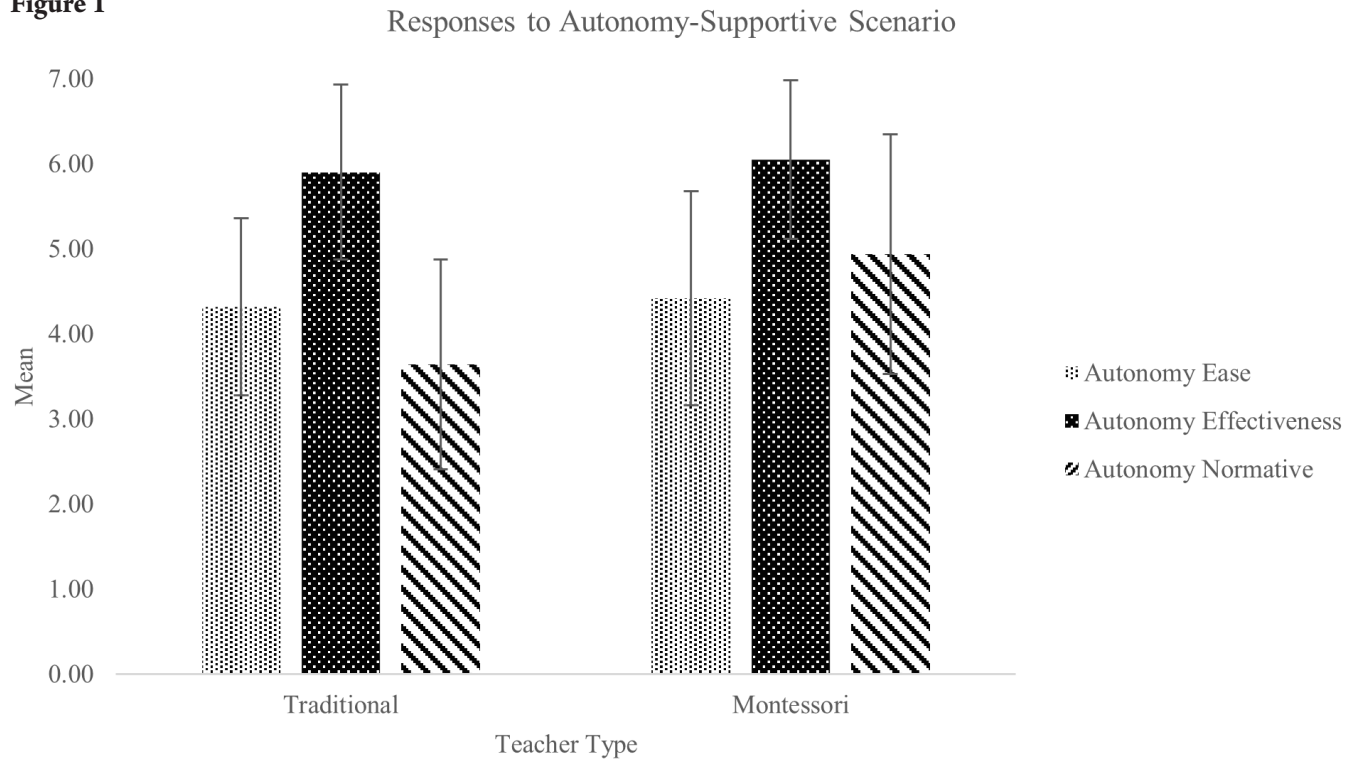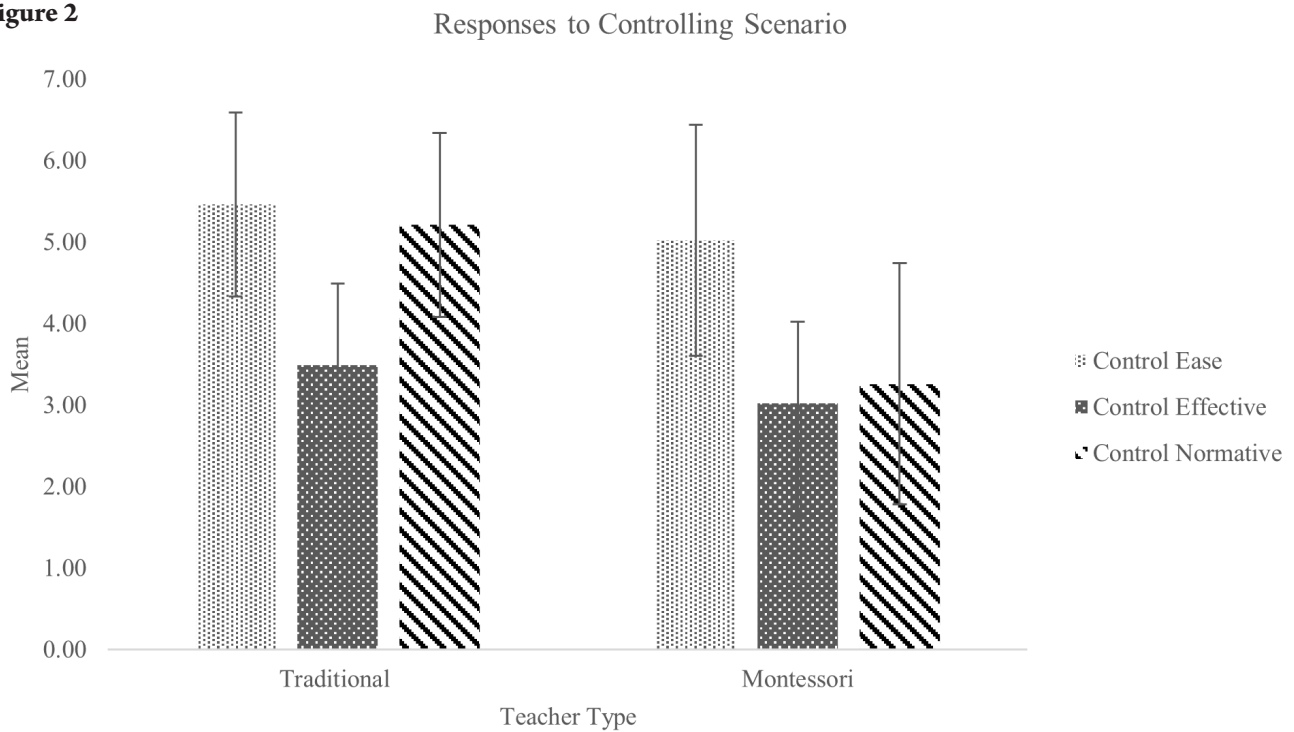
Responses to Autonomy-Supportive Scenario

Note: Error bars show standard deviations.

Figure 2

Responses to Controlling Scenario

Note: Error bars show standard deviations.

Figure 3

Degree of Identification with Teaching Styles

Note: Error bars show standard deviations.

p = .449, 95% CI: -0.44 to 0.20. However, the Montessori teachers (*N* = 41, *M* = 2.93, *SD* = 1.69) described their personal teaching styles as significantly less controlling than those of traditional teachers (*N* = 39, *M* = 3.72, *SD* = 1.52), $F(1, 78) = 4.81$, *p* = .031, $\eta^2 = 0.06$, 95% CI: 0.04 to 0.76. In summary, both groups described their teaching as similarly autonomy-supportive; however, the traditional teachers described their teaching as more controlling than did Montessori teachers.

Discussion

An examination of this U.S. subset from a previously published international study found Montessori and traditional teachers shared similarities but also demonstrated some marked differences in their beliefs about motivation. Regarding hypothesis one, both groups of teachers similarly felt that autonomy-supportive teaching is easy and effective. Both groups also similarly felt that controlling teaching is easy to implement but not very effective.

However, the two groups differed significantly when asked if each style was normative, or commonly seen at their schools. Montessori teachers were more likely to say autonomy-supportive teaching was normative ($\eta^2 = 0.20$), and traditional teachers were more likely to say controlling teaching was normative ($\eta^2 = 0.36$). These

large effect sizes (Cohen, 1988) indicate very meaningful differences between what Montessori and traditional teachers feel is normative in their schools, providing partial support for hypothesis one.

Partial support was also found for hypothesis two. Both groups felt the autonomy-supportive scenario described their personal teaching practice. However, traditional teachers were more likely to rate the controlling scenario as similar to their teaching style, with a moderate effect size of $\eta^2 = 0.06$, suggesting that the two groups of teachers may conceive of motivation differently. Montessori teachers may see autonomy support as a preferred teaching style and believe they cannot be both autonomy-supportive and controlling. Since the traditional teachers were more likely to identify the controlling teaching as similar to their own style while also endorsing autonomy support, they might envision both motivating strategies as tools that are available when needed (Reeve et al., 2014).

Taken together, the partial support found for both hypotheses points to not only documented differences between the two types of teachers' perceptions about motivation, but also a concern that traditional teachers may be more likely to engage in harmful controlling teaching. Traditional teachers were more likely to report the controlling scenario as similar to their teaching style,

that autonomy-supportive teaching is less normative, and that controlling teaching is more normative, as compared with the Montessori teachers across all three variables. Put simply, traditional teachers see their schools and classrooms as places where more controlling teaching happens, compared to what the Montessori teachers report.

As mentioned, controlling teaching has considerable negative effects on students. In classrooms with controlling teachers, students feel less intrinsic motivation for their schoolwork, more often display negative emotions, and feel their needs for autonomy, relatedness, and competence are thwarted (Ames, 1992; Assor et al., 2005; Basten et al., 2014 Hein et al., 2015; Reeve, 2016). Given the responses from traditional teachers in the sample, one might conclude that students in traditional public schools have some of these negative experiences as they make their way through school each day. At the very least, the data show these students are more likely to experience negativity, as compared with students in Montessori classrooms.

The initial study (Reeve et al., 2014) assessed the influence of culture on motivational beliefs. It is worthy of note when examining this subset of the larger data that there may be differences due to culture, even though all teachers in this sample reside in the United States. Undergoing Montessori training transforms the outlook of the teacher (Cossentino, 2009). Montessorians learn that children are developmentally and biologically driven to learn, and that adults can interfere with this process by misunderstanding how development and learning organically occur. Due to the training they receive and the teaching they perform in specific schools, Montessorians may be a culturally distinct group with its own cultural norms. This is noted in particular ways lessons are carried out, such as the precision of rolling a rug or the unique Language, like Stamp Game applied for a Math lesson. Distinctions are also clear in the various types of teacher-student relationships, such as hands on a teacher's shoulders to gain attention rather than students' hands raised while remaining seated (Cossentino, 2005, 2009). Given that Montessori education may be considered culturally distinct from traditional education, it is entirely possible the differences noted in this study are tied to culture. The original study found that in cultures that identify as collectivistic, likelihood is greater that teachers will identify with the controlling teaching scenario (Reeve et al., 2014). This may map on to the current study, considering Montessori classrooms often have students working on individual tasks and traditional classrooms more often host whole-class activities (Lillard, 2019).

Limitations and Future Directions

The sample size is a limitation, with only 39 traditional and 41 public Montessori teachers included in this study. With a convenience sample such as this, we were unable to fully assess the differences in endorsement of autonomy and control across various grade levels. Future research should consider using a much larger sample size to include the voices of more teachers nationwide as well as matched samples of teachers across grade/age levels to observe how autonomy support and control vary across school settings.

In addition, questions about the types of training the Montessori teachers received, such as from AMS, Association Montessori Internationale, International Montessori Council, or Montessori Educational Programs International, and how that training affects teachers' views on motivation, could also be examined in a larger sample. All samples for the international study were collected from public schools, but in future research comparing the Montessori Method with traditional education in the United States, it might also be informative to include both public and private school teachers.

An additional limitation to examining participants' beliefs in this sample is that these teachers all self-selected into their particular teaching method, be it traditional or Montessori. It is not known if the Montessori teachers chose that method because a less controlling nature suits their personality, or if the training Montessori teachers undertake molds them into less controlling teachers. It is also not known if the traditional teachers began their careers avoiding controlling teaching but eventually adopted more controlling tactics as a way to provide structure in the classroom and cope with the high levels of responsibility and accountability teachers face (Reeve, 2009).

Conclusion

This study examined the U.S. subset of an international investigation on teachers' perceptions of motivation and descriptions of their personal motivating styles. When comparing public Montessori teachers with traditional public school teachers, findings showed that both groups rated themselves fairly high in autonomy support, and felt that autonomy-supportive teaching was effective and relatively easy. It was also found that both groups agreed that controlling teaching was relatively easy but less effective. However, there were significant

differences between the groups when comparing types of teaching they felt were normative, as well as in the degree to which teachers felt the controlling scenario described their personal teaching style. Montessori teachers reported autonomy-supportive teaching as more normative and controlling teaching as less normative than did traditional teachers. In addition, traditional teachers reported that the controlling scenario described their personal teaching style significantly more than the Montessori teachers did.

Programs exist to train teachers how to use more autonomy-supportive and less controlling teaching methods (e.g., Cheon & Reeve, 2015). Research studies, such as this one, can help identify subtle variations among groups of teachers to perhaps more accurately tailor autonomy-supportive education training. Teaching with autonomy support has many impactful benefits for both students and teachers (Cheon et al., 2020), whereas controlling teaching has been shown to be detrimental (Reeve, 2016). It is clear that the traditional teachers do, in fact, endorse autonomy support, so their training might focus on ways to increase their use of such methods and decrease controlling ones, rather than merely introducing them to autonomy-supportive ideas.

This research provides empirical support to confirm common beliefs about Montessori education: as teachers endorse autonomy support, students have freedom within an educational structure; as teachers do not use punitive methods to maintain order, students are not subjected to controlling teaching. Given this, Montessori education aligns well with the concepts of SDT (Moss & Smuda, 2022).

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