

Commitment to Classroom Model Philosophy and Burnout Symptoms Among High Fidelity Teachers Implementing Preschool Programs for Children with Autism Spectrum Disorders

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Abstract Teacher commitment to classroom model philosophy and burnout were explored in a sample of 53 teachers implementing three preschool models at high levels of fidelity for students with autism: Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH); Learning Experiences and Alternative Program for Preschoolers and Their Parents (LEAP); and high quality special education programs (HQSEP's). Relative to the other groups, LEAP teachers reported significantly higher levels of commitment to LEAP philosophy while TEACCH teachers did not report significantly higher commitment levels to TEACCH philosophy. Teachers in HQSEP's reported similar levels of commitment to TEACCH and LEAP. Burnout was also low to moderate in this sample relative to normative data. Implications for school districts and teachers are discussed.

Keywords Teacher commitment · Burnout · Autism spectrum disorders · Comprehensive treatment models

Introduction

One of the primary objectives for families with children affected by autism spectrum disorders (ASD) is to access school-based educational services focused on functional skill acquisition and the remediation of maladaptive symptoms (Lord et al. 2005). Therefore, it is critical to ensure that there are highly qualified special education teachers implementing school-based interventions for students with ASD. For more than two decades, however, special education teacher shortages have been of concern to policymakers and administrators who work to recruit and retain special educators (Council for Exceptional Children [CEC] 2000; Morsink 1982). Although the causes of this shortage problem are likely complex, prior research implicates that teacher burnout may be related to this issue (Billingsley 2004; Winiewski and Gargiulo 1997). This deficiency in special educators is concerning and may have serious and far-reaching consequences for children with disabilities, particularly those with ASD.

The aim of the current study was to investigate dimensions of *teacher burnout* and *teacher commitment* in educators implementing three different preschool programs at high levels of fidelity: Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH); Learning Experiences and Alternative Program for Preschoolers and Their Parents (LEAP); and a non-ASD specific, but high quality special education program (HQSEP). *Teacher burnout* is defined here as a unique stress syndrome that results from coping unsuccessfully with chronic stress in the classroom. *Teacher*

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commitment is defined here as an understanding and allegiance to the underlying philosophy, assumptions, practices, and principles of an intervention and/or teaching approach. Specifically, our first aim was to identify both the shared and differing levels of commitment to the philosophical tenets underlying TEACCH and LEAP among the three groups. Secondly, we sought to examine symptoms of burnout in this high fidelity group of teachers and assess whether commitment to TEACCH and LEAP philosophy serves to mitigate the onset of this syndrome. A better understanding of these variables and their relationship may provide important information for special education programs serving families affected by ASD.

This study was completed as part of a larger multi-site preschool treatment comparison investigation. Due to the design of the parent project, these variables were examined in three groups of educators who were implementing their respective programs at above average ratings of fidelity of implementation. These ratings were completed with empirically-validated treatment fidelity instruments (*see* Hume, et al. 2011). It is acknowledged here that these criteria resulted in an exclusion of teachers implementing their respective programs below the above average range. However, exploring these constructs within a sample of “high fidelity” teachers was deemed important because it is a subset of educators who were very experienced, motivated, and had received formal training in special education and specialized practices. Additionally, it is a subgroup of teachers that presumably had a comprehensive understanding of the philosophical tenets underlying the TEACCH and LEAP classroom-based programs and were likely to have a “commitment” to them. Therefore, it allowed us to investigate the levels of burnout that these three groups of high quality teachers were experiencing, their shared and differing levels of commitment to TEACCH and LEAP, and the potential relationship between these two variables.

Stressors in Special Education

Teachers of children with developmental disabilities experience an extraordinary amount of chronic stress (Fore et al. 2002; Miller et al. 1999). One extensive review of the special education literature on teacher retention indicated that a combination of multiple interacting environmental factors including unmanageable workloads (Morvant et al. 1995), role ambiguity (Billingsley and Cross 1992), excessive paperwork (Paperwork in Special Education 2002), and a lack of resources (Miller et al. 1999) all lead to high levels of stress, withdrawal from students, and eventually attrition (Billingsley 2004). Moreover, it seems likely that these demands and expectations may be even

greater among educators of students with ASD. There are many disorder-specific challenges that make educating this population particularly complex, including the characteristics central to ASD, the pervasiveness of these impairments, and the increased parent-teacher relationships that are often necessary for these students and their families (Dymond et al. 2007). Furthermore, there are also various comorbid disorders (e.g., anxiety and intellectual disability) commonly associated with ASD, all of which make teaching this population exceptionally difficult.

Teacher Burnout

One unique type of stress syndrome resulting from the challenges faced by special educators is teacher burnout (*see* Billingsley 2004; Winiewski and Gargiulo 1997; CEC 2000). Burnout is the endpoint in the process of coping unsuccessfully with chronic stress. It is a psychological syndrome that results from occupational stress among human service workers, including teachers, in response to chronic interpersonal stressors on the job (e.g., Cherniss 1980; Farber 1991; Maslach et al. 2001). Teacher burnout can be described as a syndrome with three dimensions: Emotional Exhaustion (EE; occurs when emotional resources are depleted and teachers feel they can no longer give psychologically of themselves), Depersonalization (DP; occurs when teachers withdraw from their students and their work and develop negative, cynical, or indifferent attitudes and feelings about their students), and reduced feelings of Personal Accomplishment (PA; occurs when teachers perceive themselves as less effective in their work with their students; Chernis 1980, 1985; Maslach and Jackson 1981).

Burnout is prevalent and of primary concern within the field of special education. Researchers have determined that levels of burnout among special educators are higher relative to teachers in general education (Boe et al. 1997, b). Additionally, Miller et al. (1999) conducted a study with 1,576 special education teachers and their results suggested that 21 % of these teachers left the field entirely, and indicated that high levels of stress significantly contributed to their decision. Prior research also suggests teachers’ thoughts about leaving their jobs are associated with levels of burnout, and turnover was significantly associated with EE (Jackson et al. 1986; Cordes & Dougherty 1993). Furthermore, high levels of stress and burnout have been associated with frequent absenteeism and with teachers becoming less task-oriented, delivering less positive reinforcement, attending less to instructional tasks, and withdrawing from students when experiencing increased levels of stress (Firth and Mims 1985; Maslach and Jackson 1981; Wisniewski and Gargiulo 1997).

Teacher Commitment

There are factors that have been shown to mitigate the onset of this syndrome, however. Cherniss (1995) proposed that professionals who have the appropriate tools, such as adequate training or training in innovative techniques, may use these tools to promote adaptive coping mechanisms. Additionally, Chernis and Krantz (1983) purported that identifying with a formal ideology provides human service workers with “moral support” when making difficult decisions. In turn, this is purported to serve as an “antidote” to burnout by reducing the role of ambiguity and increasing social support, control, feelings of competence, and self-efficacy (Jennett et al. 2003).

In support of this phenomenon, Jennett et al. (2003) studied two groups of teachers of students with ASD who had either received specialized training in Applied Behavior Analysis (ABA) or TEACCH. Jennett and colleagues proposed that an understanding and commitment to the philosophical tenets of either ABA or TEACCH can be equated to identifying with a formal ideology because both provide frameworks that specify how to achieve certain goals. They proposed that the assumptions and principles that lead to the intervention (i.e., philosophy) may provide teachers with the tools to cope with the stressors of being a special educator. Their results suggested that teachers who endorsed the underlying philosophy of their teaching approach were indeed more satisfied with the work they were doing and exhibited less burnout. It was concluded that exposure to training that elicits an understanding in the theory of a particular teaching approach may serve as a buffer for experiencing burnout. This current study sought to extend these findings to two other classroom approaches: LEAP and non-ASD specific HQSEP's.

TEACCH, LEAP, and HQSEP Models

The TEACCH program is an intervention model that emphasizes “Structured Teaching,” and sets to arrange the environment and instructional procedures around the core features of autism (Mesibov and Shea 2010). The theoretical and conceptual foundations for TEACCH are largely based on cognitive-social learning theory, developmental theory, neuropsychological theories of executive function, and ABA (Bandura and Walters 1963; Mischel 1971; Hill 2004; Ozonoff 1995; Lovaas 1987). The essential programmatic components include: structuring the environment and activities in ways that are clear to students with ASD, using students' relative strengths in visual skills to supplement relatively weaker skills, using students' special interests to engage them in learning, and supporting self-initiated use of meaningful communication within the classroom (Mesibov and Shea 2010).

LEAP is an intervention model that emphasizes the use of naturalistic classroom approaches for students on the autism spectrum. Individualized instruction for students mostly occurs through incorporating learning experiences in general childhood activities and routines (Strain et al. 1996). The theoretical and conceptual foundations are largely based on applied behavior analysis and developmental theory. The key programmatic features of LEAP include an individualized learning program that is monitored through data collection in addition to the use of peer-mediated strategies with typically developing (TD) peers who are full-time class members (Strain et al. 1996).

The HQSEP's in this sample were classrooms utilizing an eclectic approach to teaching children with ASD, however, without an autism-specific theoretical framework. These programs are often the type of service that children typically receive from the local school system outside of an autism-specific treatment intervention, such as TEACCH or LEAP. In a review of community based practices, Stahmer et al. (2005) reported that over 50 % of the intervention practices within eclectic programs implemented the following: individualized support, systematic instruction, structured environments, specialized curriculum, functional behavior assessment, and family involvement. Thus, it is important to explore the constructs of interest within these HQSEP's because they are widely utilized and seem to share many program features that parallel both TEACCH and LEAP. It is plausible that HQSEP teachers have commitment levels to the philosophical tenets of TEACCH and LEAP, which may prove to be beneficial.

There was a multilevel purpose to this current study. First, analyses were conducted to examine both the shared and differing levels of commitment to the philosophical tenets of TEACCH and LEAP among the three groups. It was hypothesized that the TEACCH group would be more committed to the underlying philosophies of the TEACCH model relative to the other two groups. It was also hypothesized that LEAP teachers would be more committed to the underlying philosophies of the LEAP model relative to the other two groups. In addition, it was hypothesized that the educators in the HQSEP's would not be significantly more committed to one model (i.e., TEACCH or LEAP) relative to the other. Investigations were then conducted to explore the levels of burnout experienced by these three groups of high fidelity teachers, including an analysis of group differences on the levels of the burnout domains (i.e., EE, DP, and PA). This was an exploratory part of the investigation, thus, no definitive hypotheses were offered. Lastly, analyses were conducted to assess whether teacher commitment to an individual's respective treatment model was associated with levels of experienced burnout during the school year. Specifically, it was hypothesized a TEACCH

teacher's level of commitment to the theoretical underpinnings of TEACCH, a LEAP teacher's level of commitment to the theoretical underpinnings of LEAP, and the HQSEP teachers' overall commitment to both the TEACCH and LEAP tenets would be: (1) negatively associated with the EE domain of burnout; (2) negatively associated with the DP domain; and (3) positively associated with the PA domain.

Method

Overview

The parent project of this study is a four-year national multi-site project involving institutions throughout four states including North Carolina, Florida, Colorado, and Minnesota (see Author's note). The overarching goal of the larger project is to contribute to the improvement of the cognitive, communication, academic, social and behavioral outcomes of preschool-aged children identified with ASD and their families.

Inclusion Criteria for Teachers and Classrooms

The inclusion criteria for *all* participants included the following: (a) teachers had to be working within a public school system, (b) had to be certified in special education, and (c) had to be screened-in based on an acceptable level of fidelity of implementation of their respective treatment models. The latter criterion was met the spring prior to study enrollment with empirically-validated fidelity instruments (see Hume et al. 2011). A maximum of two fidelity assessments were used to select potential classrooms. If an acceptable level of fidelity was not met on the second fidelity assessment, that classroom was excluded from the project.

Specific criteria were used to screen teachers for the TEACCH group. These participants had to have attended a formal TEACCH training either by model developers or trained personnel within school districts and had to be implementing the model for at least two years prior to enrollment. Further, an average score of 3.5 out of 5 across three domains (items 1–13; Physical Structure, Visual Schedules, and Work Systems) on the TEACCH fidelity measure was necessary to meet inclusion criteria. These domains were selected on the basis of their statistical ability to discriminate between the three groups (see Hume et al. 2011). In addition, each TEACCH classroom had to obtain an average score of 3 out of 5 on the entire Professional Development in Autism (PDA) instrument or an average score of 3 on 4 sections of the measure which include: (a) Classroom Structure, (b) Classroom

Environment, (c) Curriculum & Instruction, and (d) Positive Instructional Climate. Lastly, each TEACCH participant had to attend a mandatory two-day TEACCH booster training session; which was provided by a certified TEACCH trainer at the end of the summer prior to enrollment.

Specific criteria were used to identify the teachers of the LEAP group as well. These participants had to have attended a formal LEAP training either by model developers or trained personnel within the school districts and had to be implementing the model for at least two years prior to enrollment. Further, an average score of 3.5 out of 5 across two domains (Teaching Strategies and Promoting Social Interactions) on the LEAP fidelity measure was necessary to meet inclusion criteria. These domains were again selected on the basis of their statistical ability to discriminate between three groups (see Hume et al. 2011). Similar to the TEACCH teachers, each classroom needed to receive an average score of 3 out of 5 on the entire PDA instrument or an average score of 3 on the 4 aforementioned sections. Lastly, each LEAP participant had to attend a mandatory two-day LEAP booster training provided by a certified LEAP trainer.

Teachers in the HQSEP's had to have taught in a classroom for preschool children with ASD for at least two years prior to study enrollment. In addition, an average score of 4 out of 5 across the entire PDA instrument or an average score of 4 across 4 sections that included: (a) Classroom Structure, (b) Classroom Environment, (c) Curriculum & Instruction, and (d) Positive Instructional Climate was necessary to meet inclusion criteria. The teachers in the HQSEP group were held to a higher standard (i.e., criteria scores of 4 out of 5) because these teachers did not have the benefit of attending any booster trainings.

Participants

Three groups (TEACCH, LEAP, and HQSEP) of preschool teachers of students with ASD were screened and then recruited as part of the larger study. All teachers were identified based on the classroom model they were implementing within a public school district. A total of 53 teachers were recruited for participation including: 17 TEACCH, 15 LEAP, and 21 HQSEP. This includes 14 teachers (25.5 %) from North Carolina, 14 (25.5 %) from Colorado, 16 (29.1 %) from Florida, and 9 (16.4 %) from Minnesota. Three teachers in the HQSEP group were excluded from the project due to the fact that they did not meet the fidelity criteria set forth in the parent project. These relatively low exclusion numbers are likely a reflection of the research team only screening classrooms that were highly recommended by school districts. All of

the participants were female, with the exception of 1 male in the LEAP group. The sample consisted of teachers who reported themselves to be the following ethnicities and races: non-Hispanic ($n = 44$; 83 %); Hispanic ($n = 9$; 17 %); White ($n = 52$; 98.1 %); and Bi/Multi-Racial ($n = 1$; 1.9 %).

Procedures

After completing the screening and consent processes, participants were asked to complete the Autism Treatment Philosophy Questionnaire—Adapted Version (ATPQ-A) at the beginning of the school year [Pre (e.g., September) via an online survey. The teachers were then asked to complete the Classroom Demographic form at four time points throughout the school year [e.g., T1 = early Fall (e.g., October), T2 = late Fall (e.g., November), T3 = early Spring (e.g., March), and T4 = Late Spring (e.g., April)]. In addition, the Maslach Burnout Inventory—Educators Survey was collected at four time points throughout the school year: Pre (September), at T2, at T3, and Post (May).

Measures

Autism Treatment Philosophy Questionnaire-Adapted Version

The Autism Treatment Philosophy Questionnaire-Adapted (ATPQ-A) was used to assess participants' commitment to TEACCH and LEAP model philosophy (see “Appendix”). This questionnaire is an adaptation of the Autism Treatment Philosophy Questionnaire (Jennett et al. 2003). The research team worked with the TEACCH model developers to confirm items that reflect the TEACCH philosophy and with the LEAP model developers to add items that reflect the LEAP philosophy. The questionnaire is 27 items rated on a 6-point continuum (1 = strongly disagree, 6 = strongly agree) relative to how well that item fit their commitment to that teaching approach. There are 14 items reflecting TEACCH philosophy and 13 items reflecting LEAP philosophy, yielding a TEACCH commitment score, a LEAP commitment score, and an overall commitment score. The questionnaire was field tested with LEAP, TEACCH, and HQSEP teachers in NC, CO, and FL in the first year of the larger project. A total of 154 teachers (78 TEACCH, 20 LEAP, and 54 HQSEP) completed the measure. Psychometric analysis indicated coefficient alpha reliability for the 27 items of the scale to be 0.957. The internal consistency for both the TEACCH subscale score (Cronbach's $\alpha = 0.92$) and the LEAP subscale score (Cronbach's $\alpha = 0.91$) were adequate. Discriminant analyses also indicated that the omnibus test for the LEAP

subscale was significant, $F(2, 147) = 4.23, p < .05$, however, it only discriminated LEAP teachers from TEACCH teachers, but not HQSEP teachers. Lastly, discriminant analyses indicated that the omnibus test for the TEACCH subscale was not significant, $F(2, 147) = 1.13, p = n.s.$ Thus, the discriminant validity of the TEACCH subscale was not supported.

Maslach Burnout Inventory: Educators Survey

The Maslach Burnout Inventory-Educators Survey (MBIES) was administered to assess levels of burnout (Maslach et al. 1996). This measure consists of 22 items comprising three subscales including: Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA). Participants rate the frequency of the feelings addressed through each of the statements on a 7-point continuum (0 = never, 6 = every day). The EE subscale assesses feelings of being emotionally overextended and exhausted by one's work. The DP subscale measures negative feelings, impersonal response, and an unfeeling towards one's students. The PA subscale measures the contentment and satisfaction one has relative to their accomplishments with their students. Adequate internal consistency and discriminant validity have been established for this inventory (see Maslach et al. 1996). Cronbach α estimates have been reported to be 0.88 to 0.90 for the EE subscale, 0.74 to 0.76 for the DP subscale, and 0.72 to 0.76 for the PA subscale (Iwanicki and Schwab 1981; Gold 1984). Refer to Table 5 for the normative means and standard deviations for each subscale.

Classroom Demographics

Participants were also asked to complete a demographic form which included the following: gender, ethnicity, race, total # of years teaching, total # of years teaching children with ASD, types of formal training, highest degree earned, classroom type, class size (e.g., # of students with ASD and DD; # of TD students), # of full time classroom staff, length of instructional day, duration/time of school day, and classroom model.

Results

Descriptive Data

Refer to Tables 1 and 2 for the demographics of the sample. Results indicated there were no significant group differences in the number of years of teaching, $F(2, 50) = 2.22, p = n.s.$, nor did the three groups differ on the number of years teaching children with ASD, $F(2,$

Table 1 Teacher and classroom demographics

Variable	Level	Number (N = 53)		
		TEACCH	LEAP	HQSEP
Education	AA	0	1	0
	BS/BA	6	5	9
	MEd/MS/MA	10	7	11
	Above MEd/MS/MA	1	2	1
Ethnicity	Non-Hispanic	14	11	19
	Hispanic	3	4	2
Race	White	17	14	21
	Bi/multi	0	1	0
Gender	Female	17	14	21
	Male	0	1	0
Length of day	2–3 h	3	15*	17*
	3–4 h	1	0	0
	4–5 h	3	0	2
	> 5 h	10*	0	2
Duration/time of day	Full day	14*	0	4
	½ Day AM	2	13*	8
	½ Day PM	1	2	9*

* Indicates a significant difference at $p < .001$

Table 2 Additional demographics

Variable	Mean (SD)		
	TEACCH	LEAP	HQSEP
Years teaching	7.44 (3.62)	11.46 (5.82)	10.59 (7.07)
Years teaching children with ASD	5.18 (2.83)	7.80 (5.31)	6.45 (4.91)
Average # of fulltime staff per class	3.04 (0.89)	3.37 (0.89)	2.72 (0.73)
Average # of children with ASD per class	6.49 (1.44)*	3.37 (0.85)	3.67 (1.98)
Average # of TD children per class	0.56 (1.85)*	8.22 (2.71)	3.45 (4.25)
Average class size	7.29 (2.08)*	12.62 (2.64)	10.31 (4.19)

50) = 1.37, $p = n.s.$ Additionally, there were no differences between groups on the average number of fulltime staff in the classroom across the year, $F(2, 50) = 2.70$, $p = n.s.$ and there were no group differences in the highest degree attained [$\chi^2(6, n = 53) = 0.68$, $p = n.s.$].

Significant differences were noted, however, between the three groups on the length of instructional day (i.e., < 2 h, between 2 and 3 h, between 3 and 4 h, between 4 and 5 h, and > 5 h) of the classrooms session recruited for the project, $\chi^2(6, n = 53) = 28.93$, $p < .001$. Additionally, the three groups differed on the duration/time of day of the classroom session that was recruited for the

project [i.e., Full Day, Morning (AM) ½ Day, and Afternoon (PM) ½ Day], $\chi^2(4, n = 53) = 35.19$, $p < .001$. Refer to Table 1 for frequencies between each group. The three groups also significantly differed on the average number of students within their classroom throughout the year, $F(2, 50) = 11.48$, $p < .001$. Error variance of the dependent variable was not equal across the three groups, therefore, Dunnett's C tests were employed revealing TEACCH classrooms, on average, had significantly fewer students relative to the LEAP and HQSEP models. See Table 2 for means and standard deviations. The three groups also differed on the average number of ASD students within their classroom, $F(2, 50) = 20.60$, $p < .001$, and the average number of TD students per classroom, $F(2, 50) = 22.85$, $p < .001$. Dunnett's C tests revealed the TEACCH classrooms, on average, had significantly more children diagnosed with an ASD and less TD students relative to the LEAP and HQSEP models. These differences were not surprising due to the traditional scheduling differences between TEACCH and LEAP as well as the fact that TD students are only staffed into LEAP and some HQSEP classrooms as part of the criteria of the classroom models.

Group Differences on Items of the ATPQ-A Scale

A one-way analysis of variance (ANOVA) was employed to assess group differences on each of the 27 items of the ATPQ-A. Post hoc Dunnett's C tests were conducted to evaluate the pair-wise differences among the means if the assumption of homogeneity of variance was violated. Results indicated that the groups reported significantly different commitment levels on the following items on the ATPQ-A: **Item 8**, $F(2, 50) = 3.21$, $p < .05$, $\eta^2 = .11$; **Item 9**, $F(2, 50) = 5.19$, $p < .01$, $\eta^2 = .17$; **Item 11**, $F(2, 50) = 8.15$, $p < .01$, $\eta^2 = .25$; **Item 14**, $F(2, 50) = 3.96$, $p < .05$, $\eta^2 = .14$; **Item 19**, $F(2, 50) = 7.53$, $p < .01$, $\eta^2 = .23$; **Item 21**, $F(2, 50) = 4.00$, $p < .05$, $\eta^2 = .14$; and **Item 27**, $F(2, 50) = 7.84$, $p < .01$, $\eta^2 = .24$. Specifically, the LEAP group reported significantly higher commitment levels to items 8, 9, 21, and 27 relative to the TEACCH group, but not the HQSEP group. Additionally, the LEAP group reported significantly higher commitment levels to items 11 and 19 relative to both groups. Results of the Dunnett's C post hoc tests for item 14 indicated that the group difference were non-significant at the .05 level. Refer to Table 3 for the means and standard deviations of each of the ATPQ-A items for each group.

Group Differences Between Levels of Commitment

A one-way multivariate analysis of variance (MANOVA) was employed to compare the groups on the ATPQ-A

Table 3 Means and standard deviations for each item on the ATPQ-A

Variable	TEACCH (n = 17)			LEAP (n = 15)			HQSEP (n = 21)			Overall (n = 53)		
	M	SD	n	M	SD	n	M	SD	n	M	SD	n
Item 1 [T]	5.88	0.33	17	5.80	0.41	15	5.86	0.36	21	5.85	0.3653	
Item 2 [T]	5.52	0.62	17	5.87	0.35	15	5.76	0.54	21	5.72	0.53	53
Item 3	5.94	0.24	17	5.93	0.26	15	5.90	0.30	21	5.92	0.27	53
Item 4 [T]	5.47	0.62	17	5.53	0.64	15	5.61	0.59	21	5.55	0.61	53
Item 5 [T]	5.59	0.80	17	5.60	0.63	15	5.38	0.80	21	5.51	0.75	53
Item 6	4.47	1.46	17	5.27	0.59	15	4.43	1.21	21	4.68	1.21	53
Item 7 [T]	5.47	0.62	17	5.40	0.83	15	5.57	0.51	21	5.49	0.64	53
Item 8 [†]	5.29	0.69	17	5.87*	0.35	15	5.52	0.75	21	5.55	0.67	53
Item 9 [†]	4.71	1.31	17	5.80**	0.41	15	5.29	0.90	21	5.24	1.04	53
Item 10 [T]	5.53	0.80	17	4.87	1.51	15	5.33	1.15	21	5.26	1.18	53
Item 11 ^{††}	5.00	0.79	17	6.00**	0.00	15	5.14	0.96	21	5.34	0.85	53
Item 12	5.35	0.70	17	5.73	0.46	15	5.76	0.54	21	5.62	0.60	53
Item 13 [T]	5.29	0.92	17	5.27	0.59	15	5.10	1.22	21	5.21	0.97	53
Item 14	5.53	0.72	17	5.93	0.26	15	5.90	0.30	21	5.79	0.49	53
Item 15 [T]	5.71	0.47	17	5.73	0.59	15	5.62	0.59	21	5.68	0.55	53
Item 16 [T]	4.76	1.25	17	4.07	1.83	15	4.71	1.38	21	4.55	1.49	53
Item 17	4.53	1.23	17	5.27	0.96	15	4.71	1.10	21	4.81	1.13	53
Item 18 [T]	5.00	0.71	17	5.27	0.96	15	5.14	0.91	21	5.13	0.86	53
Item 19 ^{††}	4.59	1.42	17	5.87**	0.35	15	5.38	0.74	21	5.26	1.06	53
Item 20	3.53	1.46	17	4.27	1.58	15	4.00	1.64	21	3.92	1.57	53
Item 21 [†]	5.24	0.75	17	5.87*	0.35	15	5.57	0.68	21	5.55	0.67	53
Item 22	5.53	0.72	17	5.60	0.63	15	5.71	0.46	21	5.62	0.60	53
Item 23 [T]	5.53	0.72	17	5.73	0.59	15	5.48	0.87	21	5.57	0.75	53
Item 24 [T]	4.53	1.28	17	4.93	1.28	15	4.29	1.27	21	4.55	1.28	53
Item 25[T]	5.59	0.51	17	5.47	1.36	15	5.33	0.68	21	5.45	0.87	53
Item 26	5.41	0.62	17	5.07	0.80	15	5.33	1.35	21	5.28	1.00	53
Item 27 [†]	3.71	1.45	17	5.33**	0.72	15	4.86	1.28	21	4.62	1.36	53

[T] indicates TEACCH items and all others are LEAP items. [†] indicates LEAP group scored significantly higher than TEACCH group. ^{††} indicates LEAP group scored significantly higher than both TEACCH and HQSEP

* $p < .05$, ** $p < .001$

TEACCH commitment score, the ATPQ-A LEAP commitment score, and the Overall ATPQ-A commitment score. The TEACCH Commitment Score was calculated as the average score endorsed on the 14 TEACCH items on the ATPQ-A (i.e., TEACCH Commitment Score = Obtained TEACCH Score/14). The LEAP Commitment Score was calculated as the average score endorsed on the 13 LEAP items on the ATPQ-A (i.e., LEAP Commitment Score = Obtained LEAP Score/13). The Overall Commitment Score was calculated as the average score endorsed on all 27 items of the entire ATPQ-A measure (i.e., Overall Commitment Score = Obtained Overall ATPQ-A score/27). Post hoc Dunnett’s C tests were conducted to evaluate the pair-wise differences among the

means if the assumption of homogeneity of variance was violated. Lastly, a paired samples *t* test was utilized to test differences in the levels of TEACCH and LEAP commitment within the HQSEP group. Refer to Table 4 for means and standard deviations.

The results of the MANOVA indicated no significant differences between the groups on the TEACCH Commitment Score, $F(2, 50) = 0.130$, $p = \text{n.s.}$ However, the groups did significantly differ on the LEAP Commitment Score, $F(2, 50) = 9.16$, $p < .001$, $\eta^2 = .27$, such that the LEAP group ($M = 5.60$; $SD = 0.31$) had a significantly higher LEAP Commitment Score than the TEACCH group ($M = 4.88$; $SD = 0.61$) and the HQSEP group ($M = 5.25$; $SD = 0.44$). Additionally, there were significant

Table 4 Means and standard deviations of the subscales scores of the ATPQ-A across groups

Variable	TEACCH (n = 17)			LEAP (n = 15)			HQSEP (n = 21)			Overall (n = 53)		
	M	SD	n	M	SD	n	M	SD	n	M	SD	n
TEACCH commitment	5.38	0.27	17	5.33	0.42	15	5.32	0.36	21	5.29	0.37	53
LEAP commitment	4.88	0.61	17	5.60**	0.31	15	5.25	0.44	21	5.34	0.35	53
Overall commitment	5.14	0.39	17	5.46*	0.33	15	5.29	0.34	21	5.22	0.54	53

The LEAP group reported significantly higher LEAP commitment scores relative to the TEACCH and HQSEP groups, and scored significantly higher overall commitment scores relative to the TEACCH group only

* $p < .05$ ** $p < .001$

Table 5 Means and standard deviations of the average burnout levels across the school year

Variable	TEACCH (n = 17)		LEAP (n = 15)		HQSEP (n = 21)		Overall (n = 53)		Norms (n = 4,163)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Maslach Burnout Inventory										
Emotional exhaustion	18.03	8.81	15.00	9.68	13.83	9.02	15.51	9.15	21.25	11.01
Depersonalization	2.95	3.76	1.72	2.66	1.45	2.45	2.00	3.00	11.00	6.19
Personal accomplishment	41.10	5.24	42.80	6.10	43.47	2.81	42.51	4.75	33.54	6.89

Higher scores on the Emotional Exhaustion domain and Depersonalization domain indicate higher levels of burnout. In contrast, higher scores on the Personal Accomplishment domain indicate lower levels of burnout. Normative data was collected on teachers in elementary and secondary, grades K-12 (Maslach et al. 1996)

differences between the groups on the Overall Commitment Score, $F(2, 50) = 3.27$, $p < .05$, $\eta^2 = .12$. Specifically, the LEAP group ($M = 5.46$; $SD = 0.33$) had a higher Overall Commitment Score than the TEACCH group ($M = 5.13$; $SD = 0.39$). No significant differences were noted between the TEACCH and LEAP Commitment Scores within the HQSEP group, $t(20) = 0.83$, $p = n.s.$

Group Differences Between Levels of Burnout

A MANOVA was also employed to compare the three groups on each of the three domains of burnout. An average of the four burnout scores across the year (i.e., Pre, T2, T3, and Post) for each domain was calculated and used as the dependent variable. A paired samples t test indicated that there were no significant differences between time points on average levels of burnout, with the exception of the PA at T3 ($M = 42.25$; $SD = 5.03$) and PA at Post ($M = 43.09$; $SD = 4.87$), $t(52) = -2.11$, $p < .05$. Results of the MANOVA indicated that there were no significant differences between the three groups on the EE subscale, $F(2, 50) = 1.02$, $p = n.s.$, the DP subscale, $F(2, 50) = 1.28$, $p = n.s.$, or the PA subscale, $F(2, 50) = 1.26$, $p = n.s.$ Tables 5 and 6 indicate the means and standard deviations of the average experienced levels of burnout

across the year and at each time point, respectively. In addition, normative data is also provided in Table 5.

Relationship Between Commitment and Burnout

A series of hierarchical regression analyses were conducted to evaluate the relationship between the ATPQ-A commitment variable and the average levels of the three dimensions of burnout experienced across the academic year. The predictor variable, the ATPQ-A commitment variable, was composed of the following scores: the TEACCH teachers' TEACCH Commitment Score (as calculated above), the LEAP teachers' ATPQ-A LEAP Commitment Score (as calculated above), and the HQSEP teachers' ATPQ-A Overall Commitment Score (as calculated above). See Fig. 1 for an illustration of the construction of the ATPQ-A commitment variable. An average of the four burnout scores across the year (i.e., Pre, T2, T3, and Post) for each dimension was used as the criterion variable. Refer to Tables 5 for means and standard deviations.

Control variables were selected and entered into the analyses to evaluate the unique contribution of the ATPQ-A commitment variable while accounting for confounds. Refer to Table 7 for the bivariate correlations between all

Table 6 Means and standard deviations of burnout scores at each time point across the school year for the overall sample

Variable	Pre = early fall		T2 = late fall		T3 = early spring		Post = late spring	
	M	SD	M	SD	M	SD	M	SD
Maslach Burnout Inventory								
Emotional Exhaustion	14.96	10.15	16.20	9.92	15.87	10.29	14.99	10.27
Depersonalization	1.76	3.54	2.18	3.71	2.28	3.30	1.82	2.55
Personal accomplishment	42.33	5.40	42.37	5.77	42.25	5.03	43.09*	4.87

A paired samples *t* test indicated that there were no significant differences between time points on average levels of burnout, with the exception of the PA at T3 ($M = 42.25$; $SD = 5.03$) and PA at Post ($M = 43.09$; $SD = 4.87$), $t(52) = -2.11, p < .05$

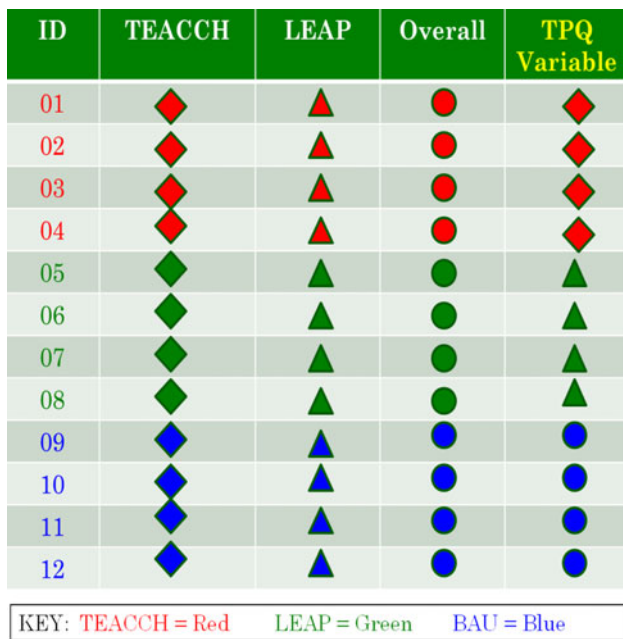


Fig. 1 Illustration of the construction of the ATPQ-A predictor variable. Cases that are listed in red are TEACCH teachers, in green are LEAP teachers, and in blue are HQSEP teachers

variables. The selection of these variables was based on the examination of the Pearson *r* correlations. The variables consisting of the average # of ASD children per class and the average class size were not selected as control variables due to their high correlations with other control variables. The control variables were entered into the first block which included the following: total # of years teaching (Ttl); total # of years teaching children with ASD (TtAs); highest degree earned (Hd); average # of students with a diagnosis per class (Ds); average # of TD students per class (Td); average # of full time classroom staff (Fs); length of instructional day (Ld); and duration/time of day (Du). Next, the ATPQ-A commitment variable (Ct) was entered into the second block. The Hd, Ld, and Du variables are categorical variables, therefore, they were dummy coded

(i.e., binary coded into 0’s and 1’s) before being entered into the analyses.

The first set of hierarchical regression analyses revealed that the overall model did not account for a significant proportion of the variance in the average level of EE experienced across the year, $F(13, 39) = 1.40, p = n.s.$ It was noted that the dummy coded highest degree earned (Hddummy1: Associate’s of Arts degree), ($\beta = 0.45$), $t(39) = 2.52, p < .05$, and the average # of TD students per class (Td; $\beta = -0.55$), $t(39) = -3.18, p < .01$, were the only variables that accounted for a significant proportion of the variance in EE. In addition, the overall model did not account for a significant proportion of the variance in the average level of DP experienced across the year, $F(13, 39) = 1.11, p = n.s.$ It was noted that the average # of TD students per class (Td; $\beta = -0.41$), $t(39) = -2.30, p < .05$, was the only variable that accounted for a significant proportion of the variance in DP. The overall model also did not account for a significant proportion of the variance in the average level of PA experienced across the year, $F(13, 39) = 1.02, p = n.s.$ Further examination of this last model revealed that no other individual regression coefficients accounted for a significant proportion of the variance in the PA criterion variable.

Discussion

This study examined both the shared and differing levels of commitment to the philosophical tenets underlying the TEACCH and LEAP classroom-based approaches among three groups of “high fidelity” teachers. The results of the study provide support that among high fidelity TEACCH, LEAP, and HQSEP teachers, there are indeed both shared as well as differing levels of commitment to specific philosophical tenets that underlie TEACCH and LEAP. This is irrespective of the classroom model that teachers are actually implementing. Additionally, it was hypothesized in this study that the TEACCH group would be more

Table 7 Pearson r correlations between continuous controlled variables, ATPQ-A commitment scores, and the burnout subscales

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Ttl	–										
2. TtAs	.598**	–									
3. Cs	.111	.142	–								
4. As	–.072	–.080	–.397**	–							
5. Td	.090	.015	.874**	–.511**	–						
6. Fs	.074	–.185	.062	–.004	.275*	–					
7. Ct	–.075	.137	.118	–.184	.289*	.134	–				
8. EE	–.114	–.027	–.313*	.056	–.313*	.008	–.173	–			
9. DP	–.211	–.174	–.296*	.179	–.223	.073	–.074	.663**	–		
10. PA	.316*	.283*	.223	–.178	.188	.030	.143	–.691**	–.704**	–	
11. Oc	–.003	.185	.176	–.255	.316*	–.044	.849**	–.245	–.199	.100	–

committed to the underlying philosophies of the TEACCH model, relative to the other two groups, and that LEAP teachers would be more committed to the underlying philosophies of the LEAP model, relative to the other two groups. Mixed support was provided for these hypotheses. The results indicate that, relative to the two other groups, high fidelity LEAP teachers report significantly higher levels of commitment to LEAP philosophy, while high fidelity TEACCH teachers do not report significantly higher commitment levels to TEACCH philosophy. Furthermore, it was hypothesized that the educators in the HQSEP's would not be significantly more committed to one ASD-specific model (i.e., TEACCH or LEAP) relative to the other. The results confirmed this hypothesis and indicate that HQSEP teachers reported similar levels of commitment to both TEACCH and LEAP philosophy.

Examination of both the item-level analysis and subscale-level analysis of the ATPQ-A provides further insight into these findings. The item-level analysis suggests that high fidelity LEAP teachers may be significantly more committed, relative to both TEACCH and HQSEP teachers, to specific elements underlying the philosophical tenets of the LEAP approach. Specifically, LEAP teachers reported significantly higher commitment levels, relative to the other two groups, to four items on the ATPQ-A including the following: (Item 8) *Peer mediated strategies allow all children (with and without disabilities) to have opportunities to help and support each other*; (Item 9) *Children with ASD should be integrated with their same-aged typical peers and be provided with the same opportunities to develop friendships*; (Item 21) *Classroom staff should identify natural and effective opportunities to facilitate children's play and social interactions with typical peers*; and (Item 27) *When a child demonstrates a problem behavior, I utilize peer models to increase the*

child's appropriate behavior. Additionally, the LEAP teachers also reported to be significantly more committed to the following items, relative to the TEACCH group only: (Item 11) *Children with ASD learn many important skills (e.g., social skills, language skills, appropriate behaviors) from their typically developing peers*; and (Item 19) *My curriculum planning should include providing numerous opportunities for children with ASD and typical developing peers to participate and interact together within the same activities*. At the subscale-level of the ATPQ-A, the TEACCH group did not report significantly higher commitment levels to the philosophy underlying the TEACCH model (i.e., TEACCH Commitment Score), relative to the two other groups' commitment to TEACCH. In fact, the three groups of teachers reported an equally high level of commitment to the philosophical tenets and practices underlying the TEACCH approach. However, there were significant group differences in levels of commitment to the LEAP model. Consistent with the item-level analysis, LEAP teachers reported significantly higher levels of commitment to LEAP philosophy (i.e., LEAP Commitment Score), relative to the two other groups' commitment to LEAP. These results were inconsistent with Jennett et al. (2003) who found significant group differences in philosophical commitment between the ABA and TEACCH groups.

One explanation for our results is that the discriminant validity of the TEACCH subscale on the ATPQ-A measure was not supported in a concurrently conducted analytical validation of the measure in the parent project (see Measures section). Despite working with TEACCH model developers to confirm that TEACCH items on the instrument reflected TEACCH philosophy and practices, these items did not discriminate TEACCH teachers from the other two groups on the basis of their levels of

commitment. On the contrary, the discriminant validity of the LEAP subscale on the ATPQ-A measure was supported. Thus, the statistical power of the instrument's LEAP subscale was able to significantly discriminate LEAP teachers from the two other groups. This may be one explanation why this group difference was observed with the LEAP group and not the TEACCH group. However, extending the discussion beyond the limitations of the ATPQ-A measure raises several interesting implications as to why LEAP teachers, and not TEACCH teachers, reported significantly higher levels of commitment to their teaching orientation, and specific elements within that orientation, relative to the two other groups.

One alternative explanation for these results may be that LEAP and HQSEP teachers share a degree of commitment to some of the underlying principles and practices of TEACCH. Perhaps it is the case that the core principles of TEACCH are more generalizable across classroom models in today's special education settings. It is possible that some of the classroom components underlying the TEACCH approach (e.g., classroom structuring, positive behavior management, utilization of visual schedules, and visual stimulation) are all generally considered "good classroom practices" in early childhood development and education. Although TEACCH has undoubtedly tailored and improved these early education elements for students on the autism spectrum, the TEACCH elements mirror many of the practices that have been used throughout the years in educating young children. For example, there were no significant group differences in levels of commitment reported on Item 4, which reads "*Leisure and social activities should incorporate appropriate elements of visual structure.*" Despite that this classroom component is a TEACCH item, and the use of visual structure is traditionally subscribed under the TEACCH approach, all three groups reported equally high levels of commitment to this practice (see Table 3). TEACCH is also considered a well-developed classroom approach, therefore, school districts may be exposing all teachers of students with ASD to some of the philosophies and practices of TEACCH. This exposure and/or training may inadvertently elicit a commitment to some of the elements of the TEACCH approach, such as visual structure. Hence, it is possible that through normal professional development within the field of education teachers may have more exposure to these types of principles, thus, making it likely for LEAP and HQSEP teachers to endorse many practices underlying the TEACCH approach. Moreover, this was a "high fidelity" sample of LEAP and HQSEP teachers, therefore, it is likely that these teachers in particular have received an extensive amount of training in many of these TEACCH practices.

This also raises a question about whether the theoretical tenets and practices underlying the LEAP model are difficult for TEACCH and HQSEP teachers to adopt within their classrooms. The LEAP approach strongly emphasizes that teachers should instruct their students through naturally occurring events within the classroom, incidental teaching approaches, and should utilize same-aged TD peers to facilitate learning within the classroom (Strain et al. 1996). LEAP model developers would contend that children with ASD learn best, and deficits are more successfully remediated, through peer-mediated interventions in natural classroom environments. This is precisely what the results of the item-level analysis of the ATPQ-A support. These teaching modalities are vastly different from the TEACCH approach; where the environment and instructional procedures are arranged around the core features of autism (i.e., visual supports used to supplement deficits in verbal communication) and there is *no mandatory inclusion* element to the classroom model. Thus, TEACCH teachers may not share similar levels of commitment to the LEAP philosophical tenets and practices simply because of the theoretical and logistical differences underlying these two approaches. Integrating the components of LEAP into a TEACCH classroom, particularly a self-contained classroom, can be much more difficult and logistically unfeasible (e.g., TEACCH classrooms do not generally include TD peers) within some school districts or settings.

In regards to the HQSEP group, these teachers may not have reported as high of a commitment level to LEAP, relative to the LEAP teachers, because they have not received formal training in this classroom approach. Therefore, despite the fact that HQSEP classrooms may utilize peer-mediation and implement more naturalistic strategies in their classroom, they may not be *as* committed to some specific practices underlying the LEAP approach. For example, the LEAP group reported significantly higher levels of commitment to Item 11, which reads "*Children with ASD learn many important skills (e.g., social skills, language skills, appropriate behaviors) from their typically developing peers.*" It is plausible that the HQSEP group may not have reported as high of a commitment to this item, relative to the LEAP group, because they have not received formal LEAP training in how to utilize TD peers to improve the skills of students with ASD across domains (e.g., adaptive behavior) outside of social or language skills. Furthermore, results indicate that the HQSEP teachers did not report significantly higher commitment levels to either the TEACCH or LEAP philosophies. It is also possible that since TEACCH and LEAP are considered well-developed classroom approaches for students with ASD,

the HQSEP teachers may be committed to and may be implementing a constellation of both TEACCH and LEAP practices. This is consistent with the findings of Stahmer et al. (2005) who reported that community-based eclectic programs implemented a constellation of practices that mirrored both TEACCH and LEAP approaches (e.g., individualized support, structured environments, specialized curriculum, and family involvement).

This study also examined the levels of burnout experienced by these three groups of high fidelity teachers, including an analysis of group differences on the levels of the burnout domains (i.e., EE, DP, and PA). The results indicate that the groups did not differ on their experienced levels of burnout across the year. This finding suggests that the level of experienced burnout across the year does not differ among the three groups. Theoretically, this may imply that implementing one classroom approach over the other does not increase the likelihood of experiencing higher or lower levels of burnout, despite their differences. This is consistent with the findings of the Jennett et al. (2003), who did not demonstrate significant group differences in experienced levels of burnout between the ABA and the TEACCH groups.

More interestingly, in comparison to the normative sample utilized in the validation MBI-ES (Maslach et al. 1996) these high fidelity teachers reported substantially lower levels of EE and DP and higher levels of PA. The normative means and standard deviations for each subscale are listed in Table 5. Overall, this sample reported burnout levels that were low to moderate (Maslach et al. 1996). Specifically, all three groups reported low (scores 0 to 16) to moderate (scores 17 to 26) levels of EE, with the TEACCH group reporting the highest levels (Maslach et al. 1996). In addition, all three groups reported low levels (scores 0 to 8) of DP and high levels of PA (scores 39 and over; Maslach et al. 1996). Therefore, this high fidelity group of teachers is reporting nominal feelings of emotional overextension or exhaustion, few negative feelings, little impersonal response, and minimal withdraw from their students. In addition, they reported high levels of contentment and satisfaction relative to their accomplishments with their students. The ABA and TEACCH sample recruited in the study conducted by Jennett et al. (2003) were fairly consistent with these findings here, as the ABA group reported a moderate amount of EE ($M = 19.2$; $SD = 10.1$), a low amount of DP ($M = 2.1$; $SD = 2.8$), and high PA ($M = 39.7$; $SD = 5.5$) and the TEACCH group also reported a moderate amount of EE ($M = 19.1$; $SD = 9.8$), a low amount of DP ($M = 2.9$; $SD = 4.6$), and high PA ($M = 39.4$; $SD = 5.9$). However, it should be noted that overall the high fidelity teachers recruited in the current sample did report lower levels of

burnout in comparison: EE ($M = 15.51$; $SD = 9.15$); DP ($M = 2.00$; $SD = 3.00$), and PA ($M = 42.51$; $SD = 4.75$).

Other studies investigating teachers working within special education have reported substantially higher levels of experienced burnout. For example, one study of intermediate and middle school teachers in self-contained classrooms of students with varying exceptionalities, including learning and emotional impairments, reported levels of EE ($M = 19.70$; $SD = 10.62$), DP ($M = 5.66$; $SD = 5.06$), and PA ($M = 41.70$; $SD = 4.33$) that indicate higher levels of burnout relative to this high fidelity sample (Nichols and Sosnowsky 2002). In addition, Banks and Necco (1990) investigated predictors of levels of burnout in a sample of 181 special education teachers and found that teachers of children with behavior disorders reported substantially higher levels of burnout [EE ($M = 20.52$), DP ($M = 7.52$), and PA ($M = 35.96$)] in comparison to the high fidelity sample examined here. Of note is the fact that the teachers recruited in these prior two studies did not necessarily subscribe to a particular classroom model. Therefore, it is plausible that these teachers may be more at risk for experiencing higher levels of burnout due to the fact that they are not committed to helpful philosophies, such as TEACCH or LEAP, or they have not received extensive training in such classroom approaches. There may simply be a lack of availability of high levels of training in these models and classroom practices that elicits teacher commitment. The study conducted by Jennett et al. (2003) provides support for this notion, as they purported high levels of training may decrease levels of burnout in teachers via increased levels of commitment to their models.

In efforts to extend the study conducted by Jennett et al. (2003), this study also sought to examine whether teacher commitment to an individual's respective treatment model was associated with levels of experienced burnout during the school year. Specifically, it was hypothesized a TEACCH teacher's level of commitment to the theoretical underpinnings of TEACCH, a LEAP teacher's level of commitment to the theoretical underpinnings of LEAP, and the HQSEP teachers' overall commitment to both the TEACCH and LEAP tenets would be: 1) negatively associated with the EE domain of burnout; 2) negatively associated with the DP domain; and 3) positively associated with the PA domain. The results of this study did not support this hypothesis. Teacher commitment to philosophy did not serve as a buffer to the experienced levels of EE and DP across the year and as a catalyst to increased levels of PA in this high fidelity sample of teachers. Thus, the commitment levels of the teachers were not significant predictors of any of the three burnout domains, suggesting that commitment does not increase nor decrease the

experienced levels of overall teacher burnout in high fidelity teachers. These results are inconsistent with the investigation conducted by Jennett and colleagues (2003) who found that a teacher's commitment to the theoretical underpinnings of a teaching orientation was significantly and positively correlated with PA and significantly negatively correlated with EE in the TEACCH group. Additionally, these results do not support the theory purported by Cherniss (1995) who proposed that professionals, who have adequate training and identify with a formal ideology (i.e., teacher commitment), have the tools and support necessary to cope with stressful environments, such as the classroom.

Of important note, however, is the fact that this study examined these relationships in a sample of teachers that were very experienced, highly motivated, and well-trained. Moreover, the teachers under investigation here were also implementing their respective programs at high levels (i.e., "above average") of fidelity, and therefore, were possibly a completely different group of teachers from those in the Jennett et al. (2003) study. As Tables 3 and 4 indicate, this is a sample of teachers that was also highly committed not only to their respective classroom models, but also to classroom elements and practices outside of them. Thus, due to the homogeneity of the sample, the within group variability was significantly reduced. This was noted in both the teacher commitment as well as the burnout variables (see Tables 3, 4, 5). Therefore, the very weak and nonsignificant linear relationship between *teacher commitment* and *teacher burnout* may be due to these factors and it is plausible that there was no relationship between commitment and burnout found here because high fidelity teachers are simply less "burned out" due to their high levels of training and commitment. Zabel and Zabel (1982) conducted a study providing support for this theory as they found that the amount of training a teacher receives has a significant inverse relationship with burnout; that is, teachers with high levels of training report experiencing lower levels of burnout. Similarly, Banks and Necco (1990) found that special education teachers with only an undergraduate degree were at greater risk for experiencing high levels of burnout. Hence, the high levels of commitment to philosophy demonstrated by teachers in this sample may be a proxy for levels of training and these highly trained teachers, therefore, are not experiencing significantly varied levels of burnout. This would enervate the predictive value of the commitment variable on burnout.

Limitations and Future Directions

There are several noteworthy limitations to this study. First, the discriminant validity of the TEACCH subscale of the ATPQ-A was not supported, thus, a re-evaluation of the TEACCH items and psychometrics is warranted. Additionally, the generalizability of the results is unknown due to the fact these constructs were investigated in a sample of preschool teachers who were implementing three specific programs at high levels of fidelity. Future investigations should be geared towards longitudinal designs comprising assessments of commitment, burnout, fidelity, and direct measures of teacher attrition. More importantly, future research should be geared towards investigating these constructs within a randomly sampled group of teachers, involving teachers that are implementing their programs at both high and low levels of fidelity and from varying theoretical orientations. This would advance our current understanding of the effects of these constructs, highlight the importance of providing teachers high levels of training that promote teacher commitment, and this could all be linked to mitigating burnout and improving the outcomes of *all* students with exceptionalities.

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Appendix: Autism Treatment Philosophy Questionnaire-Adapted Version (ATPQ-A)

Directions: Below are statements that may or may not reflect your philosophy in teaching children with Autism Spectrum Disorders (ASD). Please indicate the degree to which you agree or disagree with each statement by circling the appropriate number below.

Please use the following scale:

- 1 = Strongly disagree with statement
- 2 = Moderately disagree with statement
- 3 = Disagree slightly more than agree with statement
- 4 = Agree slightly more than disagree with statement
- 5 = Moderately agree with statement
- 6 = Strongly agree with statement

([T]* = TEACCH item; [*L*] = LEAP item—this information was not included on the form administered to teachers)

1. [T] My approach to teaching focuses on both observable behaviors and other unobservable variables, such as understanding the culture of autism, how my student thinks, understands the environment and integrates information.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
2. [T] Behavior management strategies emphasize positive, antecedent based approaches and the prevention of behavior problems.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
3. [L] Classroom activities should be designed so that all children (with and without disabilities) can participate.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
4. [T] Leisure and social activities should incorporate appropriate elements of visual structure.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
5. [T] Teaching a child to play independently is AS IMPORTANT as teaching a child to play cooperatively with others.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
6. [L] Children with disabilities should follow the same classroom routines as children without disabilities.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
7. [T] The use of schedules is essential to help children make transitions.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
8. [L] Peer mediated strategies allow all children (with and without disabilities) to have opportunities to help and support each other.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
9. [L] Children with ASD should be integrated with their same-aged typical peers and be provided with the same opportunities to develop friendships.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
10. [T] Although some children with ASD will make enough progress to be fully integrated, many will still need some form of support in specialized classrooms.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
11. [L] Children with ASD learn many important skills (e.g., social skills, language skills, appropriate behaviors) from their typically developing peers.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
12. [L] My instructional strategies focus on teaching social skills within naturally occurring routines and events in the classroom.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
13. [T] Verbal communication to students should be supplemented with or replaced by visual systems to address their receptive language deficits.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
14. [L] Communication opportunities should be set up through play and naturally occurring classroom routines to foster communication between the child with ASD and typical peers.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
15. [T] Communication activities should incorporate appropriate elements of visual structure.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
16. [T] The learning characteristics of children with ASD make it necessary for them to have specialized education services and, if needed, those services occur in a self-contained autism specific classroom.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
17. [L] Completing reinforcement inventories and making available powerful extrinsic reinforcers is one of the best ways to engage a child in an activity.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
18. [T] I regularly introduce novelty within established routines (like changes in schedules) to prevent resistance to change.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
19. [L] My curriculum planning should include providing numerous opportunities for children with ASD and typical developing peers to participate and interact together within the same activities.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
20. [L] I expect my student with ASD to respond to instructions in the natural environment despite all its distractions and interruptions.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)

21. [L] Classroom staff should identify natural and effective opportunities to facilitate children's play and social interactions with typical peers.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
22. [L] I embed instruction for IEP objectives into ongoing teacher-child or child-peer interactions.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
23. [T] One of my responsibilities as a teacher is to understand the personal experience of a student with autism.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
24. [T] I am less concerned with finding powerful reinforcers for a child than making sure activities are meaningful for him or her.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
25. [T] I find that my students with autism learn the best when their strengths and interests are emphasized and their deficits are ACCEPTED and minimized.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
26. [T] When a student demonstrates a behavior problem, I try to figure out the underlying autism deficit that could have triggered behavior.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)
27. [L] When a child demonstrates a problem behavior, I utilize peer models to increase the child's appropriate behavior.
(strongly disagree) 1 2 3 4 5 6 (strongly agree)

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