Journal of Autism and Developmental Disorders, Vol. 33, No. 6, December 2003 (© 2003)

Commitment to Philosophy, Teacher Efficacy, and Burnout Among Teachers of Children with Autism

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Variables that may be related to burnout in teachers of students with autism, including commitment to an underlying philosophy of a treatment and professional self-efficacy, were explored. Teachers using one of two different treatment approaches to autism participated: those using Applied Behavior Analysis (n = 34), and those using TEACCH (Treatment and Education of Autistic and Related Communication-Related Handicapped Children) (n = 30). Participants completed the Autism Treatment Philosophy Questionnaire, developed by the authors to differentiate between the philosophy of the approaches; Teacher Efficacy Scale, and Maslach Burnout Inventory. Results indicate a significant difference in philosophical commitment between the groups, but no differences in teaching efficacy or burnout. The relationship between a commitment to one's teaching approach and certain dimensions of teaching efficacy and burnout was found to be significant. Implications include the need for adequate training of teachers of students with autism.

KEY WORDS: Autism; applied behavior analysis; TEACCH; teacher efficacy; burnout; commitment.

INTRODUCTION

Burnout has been viewed as resulting from occupational stress among human service workers, including teachers (e.g., Cherniss, 1980; Farber, 1991). Maslach and Jackson (1981) described burnout as a syndrome with three dimensions: emotional exhaustion, depersonalization, and reduced feelings of personal accomplishment. Emotional exhaustion occurs when emotional resources are depleted and teachers feel they can no longer give psychologically of themselves. To cope with stress and emotional exhaustion (Cherniss, 1980, 1985), they withdraw from their students and their work and develop negative, cynical, and indifferent attitudes and feelings about their students (depersonalization). The teachers perceive themselves as less effective in their work with their students, leading to a reduced sense of personal accomplishment. The result is a change in attitude, goals, behavior, and motivation toward work and students to alleviate emotional distress (Cherniss, 1980).

Burnout is the endpoint in the process of coping unsuccessfully with chronic stress (Cherniss, 1985; Farber, 1991). Stressful situations are normally mediated by factors such as active problem solving (Cherniss, 1980, 1985), personality characteristics, life events, social support, and cognitive appraisal of stressful events (Farber, 1991). If these factors fail to reduce stress, burnout may emerge as a coping mechanism (Cherniss, 1980). A passive coping mechanism such as burnout occurs when teachers feel as if work-related stressors are uncontrollable and that they are helpless.

Although all teachers experience stress, additional stressors exist for special education teachers (Farber, 1991). These include an increased workload (e.g.,

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0162-3257/03/1200-0583/0 © 2003 Plenum Publishing Corporation

implementing each Individualized Education Plan [IEP]), managing and monitoring students' behavior, more demands in the parent–teacher relationship, and slower progress because of the students' cognitive deficits. Although all special education teachers are potentially at risk for burnout because of the challenging nature of their students, teachers of students with autism may be especially at risk. These children have a unique set of characteristics setting them apart from other special needs children and making learning especially challenging, including impairments in communication and reciprocal social interactions and a restricted repertoire of activities and interests (American Psychiatric Association, 1994).

Although professionals who work with difficult clients and do not feel competent are at risk for burnout, Cherniss (1995) suggests that professionals who have the appropriate tools are able to remain compassionate toward their clients, feel rewarded, and avoid burnout. Cherniss suggests that these tools, such as adequate training or training in innovative techniques, may increase one's feelings of competence and represent effective coping mechanisms. Consistent with this, researchers (e.g., Cherniss, 1993; Friedman, 1999) suggest that enhancing professional self-efficacy or teacher efficacy may decrease burnout.

The construct of teacher efficacy has a theoretical basis in Bandura's (1977, 1986) concept of self-efficacy. It has been defined as "teachers' belief or conviction that they can influence how well students learn, even those who may be considered difficult or unmotivated" (Guskey & Passaro, 1994, p. 628). Factor analyses reveal the construct of teacher efficacy to be bidimensional (Ashton & Webb, 1986; Coladarci & Breton, 1997; Ghaith & Shaaban, 1999; Gibson & Dembo, 1984; Woolfolk & Hoy, 1990), with the dimensions representing Bandura's concepts of efficacy expectations and outcome expectations. Personal efficacy, the equivalent to Bandura's efficacy expectation, is the teachers' belief in their ability to bring about change in students. Teaching efficacy, the equivalent to Bandura's outcome expectation, is the teachers' belief that students can be taught despite external factors, such as their family environment (Gibson & Dembo, 1984).

Therefore, according to Cherniss's (1995) conceptualization of burnout, unless they possess appropriate teaching tools, teachers of students with autism may be at risk for burnout. Most teachers who work with students with autism receive generic special education training or specialized training in one of two widely used treatment approaches for autism: Applied Behavior Analysis (ABA) and TEACCH (Treatment and Education of Autistic and Related Communication Handicapped Children). Both are specific approaches to educating students with autism and therefore represent the better tools for working with this population. However, some teachers who use these approaches may be trained to use specific techniques of the approach without an understanding of or commitment to the underlying philosophy. Although the techniques are helpful, the philosophical commitment allows the teacher a greater understanding and wider, more flexible application of the approach. Consistent with this idea, Cherniss and Krantz (1983) propose that identifying with a formal ideology, such as the Montesorri method or a religious ideology, provides human service workers with "moral support" for the difficult decisions they need to make, which in turn, decreases self doubt and increases feelings of competence. Most human service programs outline their goals, but many do not specify why or how to achieve these goals. In contrast, a formal ideology provides not only an outline of the goals but also an understanding of why these goals are important and how to accomplish them. Furthermore, identification with a formal ideology provides membership in a group in which everyone shares the same values and a commitment to an external frame of reference. According to Cherniss and Krantz (1983), identification with a formal ideology may be an "antidote" to burnout because it reduces role ambiguity and conflict, increases social support, increases control, and increases feelings of competence and self-efficacy. Understanding and being committed to the philosophical tenets of either ABA or TEACCH approaches to the treatment of students with autism can be equated to identifying with a formal ideology because they both provide external frameworks that specify how to achieve certain goals and why these goals are important.

Both ABA and TEACCH approaches to educating students with autism are built on core values, some of which set them apart from one another. For example, one aim of ABA is to help the individual with autism appear indistinguishable from his or her peers (Kazdin, 2001). This contrasts with a primary value of the TEACCH approach of respecting the culture of autism (Mesibov & Shea, in press). In addition, teachers using the ABA approach focus on teaching students with autism the skills they do not have and emphasize the development of new skills, whereas TEACCH proponents focus on teaching students with autism the process of learning and applying skills, with an emphasis on building on their strengths, interests, and emerging skills. Related to their focus, teachers using ABA principles rely on external reinforcement as the

primary way to engage their students in a task, whereas teachers using the TEACCH approach visually structure activities based on the interests and the cognitive profiles of their students to promote an implicit understanding of the task, thereby engaging the student in it. Another primary difference in the philosophies of these two teaching approaches involves the role of unobservable variables. Teachers using the TEACCH approach focus on unobservable variables, such as how their students think, understand the environment, and integrate information, in addition to focusing on observable variables, such as their behavior. Teachers who apply the ABA approach do not consider unobservable variables. An example of how the philosophies are implemented differently is in the management of challenging behaviors. Teachers using ABA principles assess for the environmental determinants and maintaining variables of problem behavior, whereas teachers using the TEACCH approach assess how their student is having difficulty understanding the expectations of the environment and coping with the sensory stimulation based on neuropsychological deficits.

Despite these differences, the ABA and TEACCH approaches share similar features as well. Most generally, both believe that because of their learning characteristics, children with autism require specialized services. The two approaches also share the goal of achieving independence for individuals with autism. Furthermore, although each approach is designed to instill independence, each recognizes that many individuals with autism may not achieve full independence and therefore may require special support in adulthood. In addition, both approaches are highly structured, and adherents of each use consequences to motivate students with autism. Adherents of both approaches believe that parents know their child best, that consistency can be at its greatest if treatment is carried out at home, and that parents should be as involved in the treatment of their child as possible. Involvement of parents can facilitate generalization of skills across environments, which is another common goal.

The philosophy of teaching students with autism differs between these two approaches, and therefore many of the teaching methods differ as well. However, many teaching methods are held in common. For example, both ABA and TEACCH approaches stress that teaching in a naturalistic environment is important. Both hold that structuring the environment for the spontaneous use of communication is an appropriate way to teach communication skills. In addition, using students' stronger areas to develop their weaker ones is a common teaching method for students with autism. Furthermore, both approaches recognize the need for complex skills to be broken into smaller components to be more easily learned.

In this study, we proposed that a commitment to the philosophy of either of these two approaches for teaching students with autism represents one of Cherniss's (1995) appropriate tools for avoiding burnout. That is, the philosophy underlying each teaching approach for students with autism provides the teacher with the tools to cope with the stressors of being a special education teacher. A philosophy underlying an approach is defined as the assumptions and principles that lead to the interventions used in the treatment of students with autism.

The purpose of this study was twofold. First, we hypothesized that teachers identifying with ABA would be more committed to the underlying ABA philosophy than teachers identifying with TEACCH, and that teachers identifying themselves with TEACCH would be more committed to the underlying philosophy of TEACCH than teachers identifying with ABA. The second purpose of the study was to explore both teacher efficacy and burnout in teachers of students with autism. It was hypothesized that teachers with a greater commitment to the philosophy underlying their teaching approach would have a greater sense of efficacy in teaching and would therefore experience less burnout than teachers with less commitment to the philosophy.

METHOD

Participants

Two groups of lead classroom teachers were solicited for participation in this study: an ABA group and a TEACCH group. They were initially identified based on the orientation of the program in which they worked. Potential participants were sent a survey packet containing a demographic survey, a treatment philosophy questionnaire, a teaching efficacy scale, and a burnout scale. To protect anonymity, participants were contacted through the mail via the director of their program or the principal of their school, and all completed surveys were returned directly to the investigator in a self-addressed, stamped envelope without the name of the respondent.

To identify participants for the ABA group, a list of programs offering educational services for individuals with autism in New Jersey was obtained through COSAC (New Jersey Center for Outreach and Services to the Autism Community), the statewide advocacy

organization. All programs with a stated behavioral orientation were initially selected. Two experts in ABA who were familiar with services in New Jersey independently endorsed programs that they believed to have a high-quality ABA orientation. The programs endorsed by both experts were invited to participate, and two high-quality ABA programs in New York State were also were recommended by the same experts and selected for participation. The directors of these programs were contacted for permission to send survey packets to their lead teachers. Once permission was granted, the survey packets, including a descriptive letter, were sent to the directors to distribute to their staff. A total of 116 survey packets were reported to be distributed to the lead teachers in these programs, and 39 (34%) were returned.

Participants for the TEACCH group were initially identified through a list provided by seven regional TEACCH centers in North Carolina, each of which consults with teachers in public schools implementing the TEACCH model in their classroom. From this list of over 300 public schools, 60 classrooms were randomly identified. To recruit the teachers in these classrooms, a letter explaining this study, along with a survey packet and letter to the teacher, were sent to the principal of the school with the request that he or she pass the survey on to the appropriate lead teacher. An additional 25 participants were recruited through a TEACCH advanced training program. Participants in this week-long program had previous experience and training in the TEACCH model and were accepted into this advanced training based on their interest in learning more about the structured teaching orientation. The directors of this training program distributed the survey packets and letter. Because not all of the TEACCH training participants were lead teachers, an additional screening sheet was attached to their survey packets to identify their jobs. A total of 47 survey packets were returned (26 from the public schools and 21 from the advanced training), for a 55% return rate (43% and 84% respectively).

Out of 201 survey packets, an overall 43% return rate was achieved. Although teacher orientation was initially determined by employment in or attendance at a program using ABA or TEACCH methods, participants were placed in groups based on the teaching orientation they endorsed in their survey packet, 34 teachers made the ABA group, and 30 teachers the TEACCH group. Six teachers who reported a mixed orientation and 16 respondents who were not lead classroom teachers were excluded.

The majority of teachers in both groups were female (ABA group: female, 29; male 4, unknown = 1; TEACCH group: female, 26; male 4). The ABA group was significantly younger than the TEACCH group, at 29.9 years ($SD = 8.3$), and 39.3 years ($SD = 10.0$), respectively [$t(58) = -3.941$, $p < .001$]. There was no significant difference in the years of experience teaching children with autism; the mean number of years of experience for ABA teachers was 6.38 (4.86) and for TEACCH teachers, 7.90 [7.21; $t(62) = -0.998$, $p =$ n.s.].

The two groups did not differ in the highest degree attained [$\chi^2(2, \text{n} = 64) = .03$, $p =$ n.s.], but they did differ by undergraduate major [$\chi^2(2, \text{n} = 63) = 8.12$, $p < .05$]. Slightly more than half of the ABA sample (n = 20) and the TEACCH sample (n = 17) had a bachelor's degree, and the rest (ABA, 14; TEACCH, 13) had Master's degrees. The majority of the ABA group (n = 18) had a psychology undergraduate background, whereas the majority of the TEACCH group (n = 16) had an education undergraduate background.

The two groups did not differ in the number of students taught [$t(61) = -0.243$, $p =$ n.s.]. The mean number of students for whom the teachers were responsible at one time for the ABA and TEACCH groups were 7.21 (5.22) and 7.47 (2.47), respectively.

The two groups differed in their work setting, with the entire ABA sample in private schools and the majority (93%) of the TEACCH sample in public schools. This difference is not surprising, as there are many private specialized schools for students with autism using the principles of ABA, whereas teachers who employ structured teaching often work in public schools. Despite this difference, the samples did not differ in the type of the classroom in which they work. The majority of teachers in both samples worked in self-contained classrooms for students with autism (ABA, 28; TEACCH, 28), with a few teaching in a multihandicapped class (ABA, 4; TEACCH, 2) or in both types of settings (ABA, 2).

Measures

Autism Treatment Philosophy Questionnaire

To determine the respondents' commitment to philosophy, a questionnaire with a selection of representative statements about the two treatment approaches for autism was administered. The questionnaire contained statements reflecting each treatment approach's underlying theory and values (i.e., ways in which it differs from the other approach), as well as statements of shared theory and values.

Initially, a list of 48 statements reflecting differences and similarities in the theory and values of

TEACCH and ABA was developed by the investigators, based on the literature about each treatment approach (e.g., Anderson, Taras, & Cannon, 1996; Green, 1996; Mesibov, Schopler, & Hearsey, 1994; Mesibov & Shea, in press). These items were presented to six clinicians, three with a commitment to the TEACCH approach and three with a commitment to the ABA approach, for a preliminary review. These clinicians blindly sorted the statements into the categories of ABA, TEACCH, or shared and aided in the revision of those statements for which there was disagreement with the investigator's initial categories. The revisions made these statements more specific to their categories.

This pool of items was submitted to four leading experts from each approach who were asked to rate each item on a 6-point continuum (1 = strongly disagree, 6 = strongly agree), reflecting the degree to which each statement accurately reflected their philosophy. Items on the TEACCH dimension were statements receiving a mean rating of at least 5 by the four TEACCH experts as well as an average rating by the ABA experts that was at least 2 points lower than the TEACCH mean. Selection of items in this manner yielded six statements representative of the TEACCH philosophy. An identical process for ABA items yielded seven statements representative of the ABA philosophy. To ensure that there would be an equal number of TEACCH and ABA items, one ABA item that had the least disagreement, defined as the smallest difference between the ABA mean rating and the TEACCH mean rating, was dropped.

Items on the shared dimension were statements that received a mean rating of at least 5 from both ABA and TEACCH experts. Selection of items in this manner yielded 12 statements representative of agreement in the ABA and TEACCH philosophy. Two of the 12 items with the least amount of agreement, as defined by the biggest differences between the ABA mean rating and the TEACCH mean rating, were dropped.

The final questionnaire had 22 statements: six for TEACCH, six for ABA, and 10 reflecting a shared philosophy. The order of the statements was randomly mixed. The participants were asked to endorse each item on a 6-point continuum (1 = strongly disagree, 6 = strongly agree) in terms of how well it fit with their personal approach to teaching. The questionnaire yielded three scores for each participant: the ABA score, the TEACCH score, and the shared score. Each participant's commitment score was the score associated with their identified teaching orientation. For example, for teachers identifying ABA as their teaching orientation, the ABA score was their commitment score. See the Appendix for the full scale.

Teacher Efficacy Scale

To investigate teacher efficacy, a modified version of the Teacher Efficacy Scale for special educators (Coladarci & Breton, 1997) was administered to participants. The original scale by Gibson and Dembo (1984) for use with regular educators was factor analyzed into two dimensions of teacher efficacy: personal efficacy and general efficacy. Personal efficacy is the belief that one has the ability and skills to bring about positive change in students (e.g., "When any of my students show improvement, it is because I have found better ways of teaching them."). General efficacy is the belief that education by any teacher can bring about positive change, regardless of external factors, such as family background, home environment, and parental influences (e.g., "The amount that a special education student will learn is primarily related to family background."). The modified version of the scale was factor analyzed into a comparable two-factor structure. The scale asks participants to indicate their level of agreement with 30 items (each item corresponding to one of the two dimensions) along a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree).

Coladarci and Breton (1997) revised this scale for special educators in resource rooms. Because the present study was not limited to resource room teachers, a few additional modifications were made so that the scale would be adapted to special educators and make sense for teachers who work with students with autism. Accordingly, "resource room program" was changed to "special education classroom," "resource room teachers" was changed to "special education teachers," and "resource room students" was changed to "special education students." To be appropriate for teachers of students with autism, the word "assignment" was changed to "program," and the phrases "information I gave in a previous lesson" and "in the next lesson" were changed to "a skill I taught on a previous day" and "on the next day."

Although validity and reliability for the modified scale (Coladarci & Breton, 1997) have not been established, the original version of the scale has demonstrated adequate discriminant and convergent validity, as well as internal consistency reliabilities (Cronbach's alpha) for both factors: .78 for personal efficacy, .75 for teaching efficacy, and .79 for the combined factors (Gibson & Dembo, 1984).

Maslach Burnout Inventory

To measure teacher burnout, the Maslach Burnout Inventory—Educators Survey was administered (Maslach, Jackson, & Schwab, 1996). The Inventory has

22 statements, on each of which the participant rates the frequency of the feelings addressed through the statement on a 7-point continuum (0 = never, 6 = every day).

There are three subscales; Emotional Exhaustion, Depersonalization, and Personal Accomplishment. The Emotional Exhaustion subscale measures feelings of being emotionally exhausted and overextended by one's work (e.g., "I feel used up at the end of the workday."). The Depersonalization subscale measures the negative attitudes and feelings toward one's students (e.g., "I feel I treat some students as if they were impersonal objects."). The Personal Accomplishment subscale measures the satisfaction one has with their accomplishments with their students (e.g., "I feel I'm positively influencing other people's lives through my work."). Because burnout is associated with a lack of personal accomplishment, a lower score on this subscale indicates higher burnout.

Adequate internal consistency, test–retest reliability, and discriminant validity have been established for this inventory. Iwanicki and Schwab (as cited in Maslach, Jackson, & Leiter, 1996) reported Cronbach alpha estimates of .90 for Emotional Exhaustion, .79 for Depersonalization, and .71 for Personal Accomplishment. Similarly, Gold (as cited in Maslach, Jackson, & Leiter, 1996) attained estimates of .88 for Emotional Exhaustion, .74 for Depersonalization, and .72 for Personal Accomplishment.

Demographic Information

Participants were asked to report gender, age, years of teaching experience, highest degree received, under-graduate major, type of program where they teach (e.g., private, public, self-contained class, inclusionary class, etc.), and teaching orientation.

RESULTS

Mean Differences between Groups

The two groups were compared on their ABA, TEACCH, and shared scores on the Treatment Philosophy Questionnaire with three separate *t*-tests (see Table I). Teachers who identified themselves as having an ABA teaching orientation ($M = 31.5$) had a significantly higher ABA score than teachers who identified with a TEACCH orientation [$M = 26.6$, $t(59) = 4.74$, $p < .001$]. Similarly, teachers who identified themselves as having a TEACCH orientation ($M = 29.7$) had a significantly higher TEACCH score than teachers who identified with an ABA orientation [$M = 26.6$, $t(60) = -3.55$, $p = .001$]. On the shared dimension, teachers in the ABA group ($M = 56.2$) had significantly higher scores than teachers in the TEACCH group [$M = 54.0$, $t(60) = 2.69$, $p < .01$].

The ABA and TEACCH groups were next compared for differences in the level of teaching efficacy and burnout between the groups (see Table I). To compare the groups on sense of efficacy, two *t*-tests were conducted, one for the personal efficacy score and one for the general efficacy score. The groups differed neither on their level of personal efficacy [$t(62) = .07$, n.s.] nor on their level of general efficacy [$t(62) = .03$, n.s.]. Three additional *t*-tests were used

Table I. Mean Philosophy, Efficacy, and Burnout Scores for the Two Groups

	ABA (n = 34)			TEACCH (n = 30)			
	M	*SD*	n	*M*	*SD*	n	*t*
Treatment Philosophy Questionnaire							
ABA	31.5	3.2	33	26.6	4.8	28	4.74**
TEACCH	26.6	3.7	33	29.7	3.1	29	−3.55**
Shared	56.2	2.6	34	54.0	3.8	28	2.69*
Teacher Efficacy							
Personal efficacy	4.5	0.6	34	4.5	0.7	30	0.07
General efficacy	4.4	0.7	34	4.4	0.6	30	0.03
Maslach burnout inventory							
Emotional exhaustion	19.2	10.1	33	19.1	9.8	30	0.06
Depersonalization	2.1	2.8	32	2.9	4.6	30	−0.81
Personal accomplishment	39.7	5.5	33	39.4	5.9	30	0.23

Note: ABA, Applied Behavior Analysis, TEACCH, Treatment and Education of Autistic and Related Communication-Handicapped Children.
*$p < .01$.
**$p < .001$.

to compare the two groups on the three dimensions of burnout: emotional exhaustion, depersonalization, and personal accomplishment. There was no significant difference between the groups on their emotional exhaustion score [$t(61) = .06$, n.s.], depersonalization score [$t(60) = -.81$, n.s.], or their personal accomplishment score [$t(61) = .23$, n.s.].

Relationship between Commitment and Teaching Efficacy

For each group, a series of correlations were computed to determine the relationship between commitment to philosophy and degree of teaching efficacy. For both groups, the commitment score was significantly correlated with the Personal Efficacy dimension of teaching efficacy (ABA, $r = .38$, $p < .05$; TEACCH, $r = .47$, $p < .001$) such that the higher the commitment score the higher the sense of personal efficacy. The commitment score for only the ABA group was significantly correlated with General Efficacy ($r = .53$, $p < .001$) such that the higher the commitment score, the higher the General Efficacy score.

A series of multiple regression analyses was conducted with commitment, age, undergraduate major, and teaching orientation as the predictor variables. Together, these variables had a large effect, accounting for 16.6% of the variance in Personal Efficacy and approached significance ($p < .10$). When individual variables were examined, only commitment made a significant contribution ($\beta = .42$; $t = 2.98$, $p < .005$), accounting for 14.5% of the variance.

Although not significant, this set of predictor variables had a medium effect on General Efficacy, accounting for 13.1% of the variance (n.s.). Similar to Personal Efficacy, only commitment made an individual significant contribution ($\beta = .38$; $t = 2.65$, $p < .05$), accounting for 12% of the variance in General Efficacy.

Relationship between Commitment and Burnout

A series of correlations was computed for each group to determine the relationship between the commitment score and level of burnout. The commitment score for only the TEACCH group was significantly correlated with Emotional Exhaustion ($r = -.40$, $p < .05$), such that the higher the commitment score, the lower the level of emotional exhaustion. Similarly, the commitment score for only the TEACCH group was significantly correlated with Personal Accomplishment ($r = .45$, $p < .05$), whereas the correlation between the ABA commitment score and Personal Accomplishment approached significance ($r = .29$, $p = .10$).

A series of multiple-regression analyses was conducted with commitment, age, undergraduate major, and teaching orientation as the predictor variables of the three dimensions of burnout. This set of predictors had a medium effect size, explaining 11.4% of the variance in Emotional Exhaustion (n.s.), with no individual variable making a significant unique contribution. Similarly, this set of predictors had a medium effect size, explaining 12.5% of the variance in Depersonalization (n.s.). Again, no individual variable made a significant contribution. Finally, the set of predictors has a large effect size, accounting for 23.1% of the variance in Personal Accomplishment ($p < .05$). However, only commitment made a significant contribution ($\beta = .46$; $t = 3.44$, $p = .001$), explaining 17.8% of the variance on its own.

DISCUSSION

The results of this study confirmed the first two hypotheses of the study. First, it was hypothesized that teachers who identify themselves as having an ABA teaching orientation would be more committed to the underlying philosophy of ABA than teachers who identify themselves as having a TEACCH teaching orientation, and vice versa. The six ABA items on the questionnaire, which were initially identified by experts in ABA, distinguished the two groups, as did the six TEACCH items. Although these results demonstrating a differentiation between the two groups in terms of their underlying philosophies may appear self-evident, this finding demonstrates the value of the scale created to make this theoretical differentiation. Although this scale is a potentially valuable tool to distinguish between the philosophy of the two approaches, it may not be helpful to screen for similarities between the two approaches. The groups differed significantly on items identified by experts in both approaches to be part of their philosophy to treatment, and therefore all of the items may not actually be shared philosophy statements.

On average, teachers in both groups had high personal efficacy and high general efficacy (Coladarci & Breton, 1997), and there were no differences between the groups. Nor were there differences on the burnout dimensions of emotional exhaustion, depersonalization, or personal accomplishment. Both groups experienced an average amount of emotional exhaustion, little depersonalization, and high personal accomplishment (Maslach, Jackson, & Leiter, 1996). Thus, these teachers

of individuals with autism are experiencing little burnout and tend to feel professionally efficacious. In addition, differences between the two approaches do not seem to have an effect on the levels of efficacy or burnout. Although there was a high sense of efficacy and relatively low levels of burnout across these two groups, there was variation within the groups. The degree of adherence to a philosophy may help to explain this variation. It was hypothesized that teachers with a greater commitment to the philosophy underlying their specific teaching approach would report a greater sense of teaching efficacy than teachers who were less committed to their teaching approach. The results of this study show that commitment to philosophy for both the ABA and TEACCH groups was significantly positively correlated with personal teaching efficacy. The more committed a teacher was to the underlying philosophy of a teaching orientation, the greater the sense that he or she was having an effect on students. This indicates that the more one understands and adheres to a theoretical orientation, the more effective one feels as a teacher. Additional support for this argument was provided through the regression analysis. When commitment was placed in regression equation with the demographic variables that differentiated the two groups (e.g., age and undergraduate major), it emerged as a significant predictor of personal efficacy for both groups.

The findings are mixed for general teaching efficacy, which measures the degree to which individuals feel that education has an effect on the students, regardless of external factors such as family background. Commitment to philosophy for the ABA group was significantly positively correlated with general teaching efficacy, such that as adherence to the underlying tenets of ABA increased for teachers in the ABA group, their sense that education is effective also increased. This did not hold true for the TEACCH group. Nonetheless, support for this finding comes from the regression analysis, in which commitment to philosophy emerged as a significant predictor of general teaching efficacy. Despite a lack of relationship between these variables for the TEACCH group, both groups had the same mean score on the general teaching efficacy measure. Therefore, the sense that education, in general, has an effect on students did not differ between the groups, although commitment to the underlying tenets of the TEACCH philosophy was not found to be a predictor variable for general efficacy.

As a whole, these combined results for personal and general teaching efficacy provide support for the hypothesis that teachers with a stronger commitment to or understanding of the underlying theoretical orientation of their teaching approach have a greater sense of efficacy, particularly with respect to their own effect on students.

It was further hypothesized that teachers with a greater commitment to the philosophy underlying their teaching approach would report less burnout than teachers who are less committed to an underlying philosophy. The results of this study confirm this hypothesis most strongly with the personal accomplishment dimension of burnout. Commitment to the theoretical underpinnings of a teaching orientation was significantly positively correlated with personal accomplishment for the TEACCH group and approached significance for the ABA group. This indicates that as teachers adhere more to the underlying philosophy of their teaching approach, they become more satisfied with the work they are doing and move away from the clinically significant range of experienced burnout. This suggestion is further supported by the results of the regression analysis, in which commitment emerged as a significant predictor of personal accomplishment for both groups. Further, when compared to the two teaching efficacy dimensions and the other two burnout dimensions, commitment to an underlying theoretical orientation accounts for the most variance in personal accomplishment, about 25%.

With regard to the depersonalization dimension of burnout, commitment to philosophy was not significantly correlated with depersonalization for either group. In fact, both groups reported very low depersonalization and fell within the healthy range of experienced burnout caused by depersonalization. Therefore, across the board and regardless of degree of commitment to an underlying philosophy, it appears that the teachers of individuals with autism in this study do not withdraw from their students or develop indifferent attitudes about them.

The results are mixed for the emotional exhaustion dimension of burnout. Commitment to the underlying philosophy was significantly negatively correlated with emotional exhaustion in the TEACCH group, but not the ABA group. For the TEACCH group, as adherence to the underlying TEACCH philosophy increased, the level of emotional exhaustion decreased and brought the teachers farther away from the clinically significant range of experienced burnout. Although this relationship was significant for the TEACCH sample, commitment was not a significant predictor of emotional exhaustion in the regression

equation within all participants nor across the two groups. It is interesting that the relationship between commitment and emotional exhaustion did not hold for the ABA group. However, although there is not a significant relationship, the mean emotional exhaustion score did not differ between the groups. Therefore, the average teacher with an ABA teaching orientation seems to experience emotional exhaustion in the low-average range of burnout regardless of degree of adherence to the underlying philosophy of ABA.

Overall, the findings of this study indicate that, for teachers of students with autism, a commitment to a theoretical orientation is related to higher professional self-efficacy and lower experienced burnout. Most specifically, a stronger commitment to an orientation predicts a higher sense of teaching efficacy and personal accomplishment in teaching. More global theoretical training may be a very important buffer against experiencing low teaching efficacy and high burnout. Teachers who receive inadequate training or training in only the application of teaching techniques may be less committed to the theoretical orientation of their teaching approach because they have only been taught "what" to do without an understanding of "why." Thus, without more global training, a teacher may feel less efficacious when confronted with a situation different from what they have encountered in the past. An understanding of theory helps teachers conceptualize problems, which in turn, should drive intervention. Therefore, when facing a new problem, a teacher with an understanding of the theory behind the techniques is able to more quickly conceptualize the problem and determine the solution, increasing feelings of competence and mastery. By contrast, knowing techniques alone may result in the trial-and-error testing of different techniques until one that works is found, and this prolonged process may allow the problem to become worse over time and decrease the teacher's feelings of competence and mastery over the situation.

This study examined several different variables that have not been previously studied in teachers of students with autism. First, a tool was developed to screen teachers identifying with either ABA or TEACCH for their level of commitment to the underlying philosophy of their teaching approach. The items included were identified by experts in both treatment models and these items distinguished the two groups of teachers. In the future, a factor analysis should be done to see how the items cluster together. In addition, an item analysis should be performed and the construct examined. It is possible that the number and content of items representing the unique philosophies of both teaching approaches is insufficient. In addition to these validity issues, future research should establish the scale's reliability. Despite these limitations, this scale represents a preliminary method of identifying a teacher's commitment to their teaching approach.

We found no previous studies examining teaching efficacy in teachers of students with autism, and only a few have looked at burnout (e.g., Harris, Handleman, Gill, & Fong, 1991). Overall, teachers of students with autism who identify themselves as having a teaching orientation of applied behavior analysis or TEACCH have a high sense of teaching efficacy and low experienced burnout, despite the challenges to teaching students with autism. Because the participants were only required to complete and return surveys anonymously, it is possible that these samples are biased in favor of higher efficacy and less burnout. Despite this possibility, the results of this study show that efficacy and burnout are significantly related to a commitment to a theoretical orientation. Although this study tested these hypotheses using two groups of teachers who were expected to be committed to one of the two orientations, it would be interesting to include in the future a control group of teachers with little or no commitment to these orientations to further test these hypotheses.

Looking at the contribution of the commitment to a philosophy to teaching efficacy and burnout is another unique aspect of this study. Past burnout and efficacy literature indicates that increasing professional self-efficacy may help to buffer the experience of burnout (Cherniss, 1993; Friedman, 1999). However, no research has identified how to do so with teachers of students with autism. Cherniss (1995) proposed that professionals who have the "appropriate tools" to work with difficult clients can avoid burnout through increased feelings of competence. This study confirms commitment to an underlying philosophy as an "appropriate tool" by demonstrating that it is a significant predictor for teaching efficacy and aspects of burnout. Increasing professional self-efficacy and decreasing burnout are very important in the field of special education. Doing so may prevent attrition and improve the jobs of the teachers who remain in the field. Although at this point it is difficult to unravel whether teachers with high efficacy seek an orientation or whether the orientation is responsible for the high efficacy, the implications of these results provide a method of accomplishing this task—adequate training may be the key.

APPENDIX

Autism Treatment Philosophy Questionnaire

Below are statements that may or may not reflect your value system in the teaching of children with autism. 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 the statement.
2 = Moderately disagree with the statement.
3 = Disagree slightly more than agree with the statement.
4 = Agree slightly more than disagree with the statement.
5 = Moderately agree with the statement.
6 = Strongly agree with the statement.

	Strongly Disagree					Strongly Agree
1. I would very rarely teach a cognitive skill to a child without that child showing some interest or partial ability in it.	1	2	3	4	5	6
2. My approach to teaching focuses on both observable behaviors and other unobservable variables, such as how my student thinks, understands the environment, and integrates information.	1	2	3	4	5	6
3. I structure the environment to stimulate my student's use of spontaneous communication.	1	2	3	4	5	6
4. The use of schedules can help children make transitions.	1	2	3	4	5	6
5. Although some children will make enough progress to be fully integrated, many will still need some form of support throughout their lifespan.	1	2	3	4	5	6
6. The learning characteristics of children with autism make it necessary for them to have specialized education services.	1	2	3	4	5	6
7. It is very important to collect systematically graphed data on all of a student's learning programs on a very frequent basis.	1	2	3	4	5	6
8. Making available powerful reinforcers is one of the best ways to engage a child in an activity.	1	2	3	4	5	6
9. It is important to plan for generalization and independence of skills.	1	2	3	4	5	6
10. Principles of learning, like reinforcement, shaping, and chaining, are key aspects to the way I approach teaching.	1	2	3	4	5	6
11. A large part of my educational plan for a student with autism is to remediate his or her areas of deficit.	1	2	3	4	5	6
12. Children make the most educational progress when there is a close link between home and school.	1	2	3	4	5	6
13. I regularly introduce novelty to prevent resistance to change.	1	2	3	4	5	6
14. I expect my student to respond to instructions in the natural environment despite all its distractions and interruptions.	1	2	3	4	5	6
15. One of my responsibilities as a teacher is to understand the personal experience of a student with autism.	1	2	3	4	5	6
16. To track the development of my students' emerging skills, I evaluate their performance early in the school year and then later on.	1	2	3	4	5	6
17. It is important that I show respect for all the children in my classroom.	1	2	3	4	5	6
18. I'm less concerned with finding powerful reinforcers for a child than making sure activities are meaningful to him or her.	1	2	3	4	5	6
19. I find that my students with autism learn the best when their strengths and interests are emphasized and their deficits are accepted and minimized.	1	2	3	4	5	6
20. When a student demonstrates a behavior problem, I try to figure out the underlying autism deficit or causative factor that could be the trigger mechanism.	1	2	3	4	5	6
21. I try to find the communicative intent of a student's misbehavior.	1	2	3	4	5	6
22. Perhaps the most powerful tool I have as a teacher of students with autism is to pair positive consequences with desirable behavior.	1	2	3	4	5	6

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