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Investigation of School Professionals’ Self-Efficacy for Working with Students with ASD:
Impact of Prior Experience, Knowledge, and Training

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Abstract

School professionals who work with students with autism spectrum disorder (ASD) play a significant role in the academic experiences of these students (Ruble & McGrew, 2013). Unfortunately, some evidence suggests that teachers of students with ASD experience a high risk of burnout (Coman et al., 2013), due in part to the multiple challenges associated with teaching students with ASD (Iovannone, Dunlap, Huber, & Kincaid, 2003). Research has begun to examine factors that ameliorate or prevent teacher burnout, including teacher self-efficacy, or teachers’ beliefs regarding their abilities to bring about positive outcomes for their students (Ruble, Usher, & McGrew, 2011). The present study examined variables associated with the self-efficacy of school professionals for working with students with ASD, including knowledge about ASD, prior experience working with students with ASD, and prior training in ASD and evidence-based practices. A second goal of the present study was to investigate the impact of training on ASD and positive behavior supports on school professionals’ knowledge and self-efficacy related to working with students with ASD. Results of the present study suggest the importance of training to school professionals’ self-efficacy, highlighting the need for continued efforts to provide quality training to individuals who work with students with ASD.
Investigation of School Professionals’ Self-Efficacy for Working with Students with ASD: Impact of Prior Experience, Knowledge, and Training

As the prevalence of autism spectrum disorder (ASD) has increased in recent years, so too has the number of children with ASD served in school settings. The Centers for Disease Control and Prevention (CDC) reported in 2014 that 1 in 68 children has been identified as having ASD, representing a considerable increase from 1 in 110 in 2011 (CDC, 2014). With this increased prevalence and recognition has come increased attention to the educational needs of students with ASD. Much has been written about the challenges of educating students with ASD, including the heterogeneity of the population (e.g. Segall & Campbell, 2014), the difficulty in fostering high-quality student-teacher relationships (e.g. Blacher, Howell, Lauderddale-Littin, Reed, & Laugeson, 2013), and the sometimes fraught interactions between educators and families of students with ASD (e.g. White, 2014). The unique needs of students with ASD often require teachers and school professionals to create individualized plans and supports, provide specialized curriculum content and learning environments, and address interfering and problematic behaviors (Iovannone, Dunlap, Huber, & Kincaid, 2003). Given these demands, research has begun to focus on teachers’ abilities to carry out these tasks, focusing both on the training teachers receive as well as teachers’ perceptions regarding their abilities to successfully work with students with ASD.

Literature has documented the significant role that teachers play in the academic outcomes of students with ASD. The instructional strategies that teachers select, and the degree to which they adhere to students’ educational plans, directly predict students’ academic goal achievement (Ruble & McGrew, 2013). Moreover, the strategies that teachers implement in their classrooms impact student engagement (Steinbrenner & Watson, 2015), which in turn is related
to student goal achievement (Ruble & McGrew, 2013). Unfortunately, student goal achievement is negatively impacted by factors such as teacher stress and burnout (Ruble & McGrew, 2013), which may be exacerbated by the numerous demands and challenges experienced by teachers of students with ASD. Teacher burnout is defined as a constellation of emotional exhaustion, depersonalization and cynicism, and a lack of personal accomplishment (Maslach, 2003), and is associated with negative outcomes for both students and teachers (Brunsting, Sreckovic, & Lane 2014). Factors such as role overload and challenging student behaviors have been linked with high rates of exhaustion, stress, and burnout among special education teachers (Brunsting et al., 2014). There is some evidence that teachers of students with ASD may be at particularly high risk for experiencing burnout (Coman et al., 2013). In light of these findings on both the contribution that teachers make to student outcomes and the negative impact of teacher stress and burnout, research has been directed toward factors that may play a role in preventing or reducing teacher burnout. Teacher self-efficacy, in particular, is a key factor that has been implicated as protective against burnout.

**Teacher Self-efficacy**

Teacher self-efficacy has a long history in the education literature, with evidence documenting its impact on both teacher behavior and student outcomes (Klassen, Tze, Betts, & Gordon, 2011). Traditionally, research on teacher self-efficacy has focused on special education teachers in general, but a more recent body of literature has begun to investigate the construct of teacher self-efficacy among teachers of students with ASD specifically (Ruble, Toland, Birdwhistell, McGrew, & Usher, 2013). Teacher self-efficacy has been defined as “the beliefs teachers hold regarding their capability to bring about desired instructional outcomes” (Ruble, Usher, & McGrew, 2011, p. 67). The construct has also been defined in terms of the degree to
which teachers feel that they are able to overcome challenges or work with ‘difficult’ students (Gibson & Dembo, 1984; Jennett, Harris, & Mesibov, 2003). All definitions of teacher self-efficacy, however, are derived from the more general theory of self-efficacy, first conceived by Bandura (1977), who defined self-efficacy broadly as an individual’s beliefs that he or she can produce the behavior required to bring about a given outcome.

Bandura’s self-efficacy theory (1977) was borne out of the idea that individuals’ expectations and behaviors have a reciprocal influence on one another. Expectations play a determining role in behavior, and behaviors and their consequences in turn influence future expectations. Bandura differentiated between outcome expectations and efficacy expectations, or self-efficacy. Outcome expectations are beliefs that certain behaviors will lead to particular outcomes, whereas efficacy expectations are defined as “the conviction that one can successfully execute the behavior required to produce the outcomes” (Bandura, 1977, p. 193). Outcome expectations and efficacy expectations are viewed as related but distinct. For instance, a teacher may believe that a set of instructional techniques will positively impact student outcomes (outcome expectation), but the same teacher may or may not believe in his or her individual ability to perform the instructional techniques to bring about the desired outcomes (efficacy expectation). Thus, a belief in one’s abilities is central to the theory of self-efficacy.

Studies of teacher self-efficacy have documented associations between self-efficacy and a number of positive outcomes. For example, teacher self-efficacy is positively related to job satisfaction (Caprara, Barbaranelli, Steca, & Malone, 2006) and commitment to teaching (Coladarci, 1992), and negatively related to teacher burnout (Aloe, Amo, & Shanahan, 2014; Brouwers & Tomic, 2000; Skaalvik & Skaalvik, 2010). In a review of research on teacher self-efficacy, Ross (1998) reported that higher teacher self-efficacy has also been associated with a
range of beneficial teaching practices. These include setting more ambitious goals for oneself and one’s students, selecting instructional strategies likely to improve student development, experimenting with new instructional programs in the classroom, and involving parents in student activities. More recent research has suggested that teachers with high self-efficacy provide more support to students and create a more positive classroom environment (Guo, Connor, Yang, Roehrig, & Morrison, 2012).

Teacher efficacy is not only reliably associated with teacher behaviors, but has positive implications for student outcomes. Ross’ (1998) review of the research reported that teacher self-efficacy has been associated with student outcomes including achievement in various academic subjects, enhanced motivation, and increased self-esteem and prosocial attitudes. Recent research has continued to document associations between teachers’ self-efficacy and student achievement, as measured by student literacy skills (Guo et al., 2012) and by final grades at the end of the school year (Caprara et al., 2006).

Given the positive outcomes associated with teacher self-efficacy, attention has also been directed to predictors of teacher self-efficacy. Bandura (1977) hypothesized that self-efficacy is influenced by four types of information: personal accomplishments, vicarious experiences, verbal persuasion, and physiological states. Personal experiences and performance are particularly influential to the degree that they alter one’s expectations for either mastery or failure (Bandura, 1977). Thus, a history of success at a given task will positively influence one’s self-efficacy whereas a history of repeated failures will do the opposite. In addition to these types of information, Ross (1998) suggested that teacher efficacy is in part based on a teacher’s analysis of a task’s requirements, his or her reflections on past performance, and his or her assessment of available resources. Others have acknowledged the role that environmental
demands play in self-efficacy (Ruble et al., 2013). For instance, a teacher’s self-efficacy beliefs may differ from course subject to course subject, or from year to year, depending on changing demands.

Research has examined a variety of teacher characteristics as possible predictors of self-efficacy, with mixed results. Ross’ (1998) review reported that teacher efficacy is typically higher among females, experienced teachers, and teachers with more education (i.e. graduate degrees). Another study (Tschannen-Moran & Johnson, 2011) identified quality of teacher preparation and teacher level of education as predictors of teacher self-efficacy. In particular, teacher experience has often been examined as a potential predictor of teacher self-efficacy, though results have been inconsistent. Some studies have documented higher self-efficacy among more experienced teachers (e.g. Tschannen-Moran & Hoy, 2007), whereas others have found no association between experience and self-efficacy (e.g. Ruble et al., 2011). Klassen and Chiu (2010) reported a non-linear relation between self-efficacy and experience, suggesting that perhaps self-efficacy increases during the early part of teachers’ careers but later begins to decline. Tschannen-Moran and Hoy (2007) suggested that perhaps experience plays a moderating role, with the self-efficacy of novice teachers more susceptible to contextual factors such as resource availability than the self-efficacy of more experienced teachers.

**Self-efficacy Among Teachers of Students with ASD**

Thus far, relatively little research has specifically examined the self-efficacy of teachers of students with ASD. In one study, Ruble et al. (2011) examined predictors of self-efficacy in a sample of teachers working with students with ASD, focusing in particular on teachers’ previous experience, administrative support, and burnout. Both administrative support and previous experience, as measured by years of teaching, were hypothesized to have positive associations
with teacher self-efficacy, whereas burnout was expected to be negatively related to self-efficacy. Among these teachers, burnout was negatively associated with self-efficacy, as expected. However, years of experience teaching and perceived administrative support were not correlated with teacher self-efficacy, contrary to expectations.

The authors offered a number of possible explanations for the lack of association among experience, administrative support, and self-efficacy. One hypothesized explanation is that traditional measures of teacher self-efficacy may not capture the specific tasks that are important for teachers working with students with ASD. Theoretical support for this hypothesis comes from Bandura (1986), who noted that tailoring self-efficacy measures to specific areas is desirable, as estimates of one’s efficacy vary depending on the given activity, the level of demand present, and the current environmental circumstances. Some empirical support also exists for the notion that teachers’ self-efficacy for particular types of teaching may be influenced by unique predictors. For instance, one study of literacy teachers’ self-efficacy used an instrument designed specifically to measure self-efficacy for literacy instruction and reported that general factors, such as education level and quality, as well as specific factors, such as participation in a book club and resources available for classroom books, predicted self-efficacy specific to literacy instruction (Tschannen-Moran & Johnson, 2011). To address this issue in the ASD domain, Ruble et al. (2013) developed the Autism Self-Efficacy Scale for Teachers (ASSET), designed specifically to measure teachers’ perceived self-efficacy for teaching students with ASD. In a preliminary study of 44 special education teachers, the scale had good reliability and was negatively correlated with measures of teacher stress, as expected. In particular, teachers’ ASSET scores were negatively correlated with an index of self-doubt.
In another study of teacher self-efficacy specific to teachers working with students with ASD, Jennett et al. (2003) examined relations among teacher self-efficacy, burnout, and commitment to a specific philosophy for working with students with ASD. Teachers participating in the study were trained in either Applied Behavioral Analysis (ABA; Lovaas, 1987) or Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH; Mesibov, Shea, & Schopler, 2004), both of which are common approaches for working with students with ASD. In particular, the authors were interested in teachers’ degree of commitment to the principles of ABA or TEACCH, and whether commitment to either of these two philosophies for working with students with ASD was related to teacher self-efficacy and teacher burnout. Indeed, higher levels of commitment to either philosophy were correlated positively with teacher efficacy. There was also evidence that, for some teachers, a higher degree of commitment to a teaching philosophy was associated with greater feelings of personal accomplishment and less reporting of emotional exhaustion (Jennett et al., 2003).

**Teacher Training on Autism Spectrum Disorders**

The demonstrated connection between teacher self-efficacy and teachers’ alignment with a particular philosophy of working with students with ASD directs attention to the likely importance of the ways in which teachers are trained to work with this population. Both ABA and TEACCH are well-established models for working with students with ASD (Mesibov & Shea, 2010) and are noteworthy for their inclusion of evidence-based practices (EBPs). The use of EBPs in the education of students with ASD is recognized as both important and significantly challenging (Odom, Collett-Klingenberg, Rogers, & Hatton, 2010). Increasing teachers’ use of EBPs is expected to yield a corresponding increase in student achievement (Simpson, 2005), but the identification and implementation of EBPs is a complex process (Odom et al., 2010). At
present, comprehensive EBP guidelines have been developed for working with students with ASD, published by organizations such as the National Autism Center (NAC; 2015) and the National Professional Development Center on Autism Spectrum Disorders (NPDC; Odom et al., 2010). As knowledge regarding EBPs has increased, so too has research on teachers’ knowledge about and use of these practices.

Despite the emphasis on EBPs and the suggestion that use of EBPs may be tied to teacher self-efficacy (Jennett et al., 2003), knowledge regarding evidence-based strategies is not consistently translated into practice in school settings. In one study of strategies used in educational settings with students with ASD, less than five percent of educators used EBPs with their students with ASD, and only one third of educators used any strategy rated as either evidence-based or promising (Hess, Morrier, Heflin, & Ivey, 2008). Because research has suggested that individual teacher characteristics such as education level, years of teaching students with ASD, and type of classroom are not predictive of EBP use (Morrier, Hess, & Heflin, 2011), much research has turned to teacher training to help explain the research-practice gap.

Studies of teacher training have sought to determine whether new teachers begin their careers with knowledge of EBPs. In one study, most teacher training programs taught behavioral intervention strategies, but less than half of the EBPs published by the NPDC were taught to new teachers (Alexander, Ayres, & Smith, 2014). In another study, there was a great deal of variability in the availability of teacher training programs focused on ASD (Barnhill, Sumutka, Polloway, & Lee, 2014). Even among institutions offering courses on ASD, many do not cover the topic fully, and not all address EBPs (Barnhill et al., 2014). In keeping with this, another study reported that less than 15 percent of participating educators reported being trained in
university-based teacher preparation programs (Morrier et al., 2011). Rather, teachers were trained in ASD-specific teaching strategies at day-long workshops, or in other cases were self-taught or taught by parents of children with ASD. Thus, although EBPs are available, teachers do not consistently receive training in these practices, and they therefore are not consistently used in schools.

The existing gap between research and practices in schools raises concerns about the quality of educational experiences students with ASD receive. In addition, it is hypothesized that teachers who receive little training regarding effective practices for working with students with ASD will have low self-efficacy regarding their abilities to do so. In light of these concerns, the present study sought to further investigate the link between teacher training and self-efficacy by examining predictors of self-efficacy as well as change in self-efficacy over the course of training on evidence-based strategies for working with students with ASD. Of particular interest was whether training in the Prevent-Teach-Reinforce model (PTR; Dunlap et al., 2010) influences the self-efficacy of school professionals who work with students with ASD.

The PTR model is a targeted intervention model that draws on principles of positive behavior support (PBS; Carr et al., 2002) and functional behavior assessment (FBA; Sugai, Lewis-Palmer, Hagan-Burke, 2000) to address problematic behaviors among students with ASD. The PTR model is a standardized, manualized model that incorporates strategies known to be generally effective in addressing problematic behavior, including conducting FBAs to provide individualized information about the purpose of behaviors, modifying the environment, providing instruction in alternative behaviors, and effectively using reinforcers (Dunlap et al., 2010). In particular, the PTR model emphasizes the use of ‘Prevent’ strategies that manipulate the environment or behavioral antecedents, ‘Teach’ strategies that provide instruction in alternate
behavior, and ‘Reinforce’ strategies that arrange the contingencies and consequences of behavior (Dunlap et al., 2010). The PTR model requires that intervention plans be based on FBA data, and that intervention plans include at least one component each of Prevent, Teach, and Reinforce strategies. The model has been demonstrated to be effective with students with ASD, both in reducing problematic behavior and increasing student engagement (Iovannone et al., 2009; Strain, Wilson, & Dunlap, 2011).

Present Study

Following from the finding that commitment to a philosophy of working with students with ASD has a positive impact on teacher self-efficacy (Jennett et al., 2003), of particular interest in the present study was the impact of teacher training in the PTR model on the self-efficacy of school professionals. An additional aim of the present study was to assess self-efficacy specific to working with students with ASD, using the Autism Self-Efficacy Scale for Teachers (ASSET) measure developed by Ruble et al. (2013). The authors of that measure suggested that because the ASSET is designed to target the specific experience of teaching students with ASD, it may be particularly useful for understanding potential predictors of this specific type of self-efficacy belief (Ruble et al., 2013).

The current study examined two primary questions. First, predictors of school professionals’ self-efficacy for working with students with ASD were examined. In particular, multiple regression was utilized to assess the predictive ability of school professionals’ experience working with students with ASD, knowledge about ASD, and prior training on ASD and EBPs. Second, the impact of training on ASD and PTR on school professionals’ knowledge about ASD and ASD-related self-efficacy was assessed. School professionals who participated in a PBS-focused training program completed questionnaires regarding their ASD-related
knowledge and self-efficacy prior to and following participation in the training. Based on a review of the relevant literature, it was hypothesized that both knowledge and self-efficacy would increase following participation in the training.

Method

Participants

Participants were 80 school professionals from ten schools across New York State, all of whom participated in a series of training sessions on ASD and EBPs, specifically the PTR model. The training sessions, detailed below, were designed to improve the ability of schools to serve students with ASD by providing information, resources, and consultation to a core group of school professionals who work closely with students with ASD. As such, participants represented a variety of professional roles, including special education teachers, general education teachers, administrators, school psychologists, and school social workers, among others. The majority of participants were female (90%), had advanced degrees (93%), and had been serving in their current roles for five or more years (73%). (See Table 1 for detailed demographic information).

Program Description

Training on ASD and EBPs was provided by the Center for Autism and Related Disabilities with the intention of providing information and skills regarding the use of EBPs to school personnel who work closely with students with ASD. In particular, the training provided information about PBS generally, and the PTR model (Dunlap et al., 2010) specifically. Interested schools from across New York State applied to the Center for Autism and Related Disabilities, and were selected based on a variety of application criteria. Application requirements included the creation of a team of school personnel to participate in the training, as
well as the support of school and district administrators. Schools were asked to include special education teachers, general education teachers, paraprofessionals, speech language pathologists, school psychologists or school counselors, school social workers, and administrators, as well as other school personnel based on school needs. Completed applications required the approval of each school’s principal, director of special education, and district superintendent. Administrative support was considered essential for participation, given the documented difficulty in incorporating EBPs into existing programs (Cook & Odom, 2013).

Training sessions took place in each school in three phases over the course of approximately two to three months. Training sessions followed the general procedures of the PTR model, including goal-setting, conducting an FBA, planning and implementing an intervention, and evaluating the intervention effectiveness (Dunlap et al., 2010). The first phase took place over two consecutive days and served as introduction and planning. Information was provided to school professionals regarding ASD and associated characteristics, PBS principles, the PTR model, and methods of data collection for tracking student behavior. Information was conveyed through didactic presentations and illustrated with discussion of case examples, followed by application to two students with ASD selected by the school. Following the second day of training, the school team was asked to collect data on the behavior of the selected students over the course of three to four weeks prior to the second phase of training.

The second phase of training was designed to help the school team interpret the data collected following the first phase of training and to create a behavior plan for the two selected students. Mirroring the first phase, the second phase took place over two consecutive days. Participants were taught about the process of conducting an FBA and translating the resulting behavioral data into an intervention plan using the PTR model. After discussing case examples,
the school team applied the process to their selected students. Following the end of the second phase of training, the school team was asked to implement the designed intervention plan and to continue collecting behavioral data over the course of three to four weeks. The third and final phase of training took place during a single day dedicated to reviewing student progress and problem-solving. Student behavior data following the intervention implementation were reviewed, and strategies for moving forward from either negative or positive behavior change were discussed.

**Survey Procedure**

Data were collected for the present study through two online surveys, hosted via the Survey Monkey platform. Approximately two to three weeks prior to beginning the in-school training (Time 1), participants from each school were provided with a link to the online questionnaire, which included questions assessing participants’ knowledge about ASD and self-efficacy regarding working with students with ASD. Approximately two weeks following completion of the final in-school training session (Time 2), participants were asked to complete a second survey. As incentive for completing the Time 2 survey, individual participants were offered the opportunity to enter a raffle for a $25 iTunes gift card. As additional incentive, schools at which all participants completed the post-survey could elect to receive either $50 of resource books or two no-cost conference admissions for a conference hosted annually by the Center for Autism and Related Disabilities.

To maintain anonymity of survey responses, one member of each school team was asked to assign a numeric code to each school professional participating in the training. The numeric codes served as identifiers and were used to match survey data collected prior to and following the training. These numeric codes were used to match survey data collected at Time 1 and Time...
2. A total of 80 school professionals completed the Time 1 survey, and 70 school professionals completed the Time 2 survey. However, only 50 of these participants provided numeric codes that matched codes provided at Time 1. Due to staff changes and availability at each school, not all school professionals participated in the survey at both time points. In addition, one school reported losing their list of codes between Time 1 and Time 2, resulting in mismatched codes. Only participants who provided the same code at Time 1 and Time 2 were included in some analyses, as described below.

Measures

**Demographic Information.** Demographic information was collected via a series of investigator-derived questions included in the Time 1 survey. Participants provided information regarding their education level, gender, current role in the school, and length of time in current role. Of interest to the present study, participants also answered questions regarding previous experience with students with ASD, including years of experience working with this population, prior training regarding ASD, and previous training on PBS. Information about prior training was assessed with two items, in which participants were asked to select the level of training they had received in ASD and PBS. Participants responded using a 5-point Likert scale, with responses ranging from “I have received no training” to “I have received extensive training.” (See Appendix A for demographic questions included in the online survey.)

**Autism Knowledge Questionnaire.** Knowledge about ASD was assessed at both Time 1 and Time 2 using a questionnaire designed for the current study. Questions focused on topics including ASD characteristics, diagnostic criteria, and PBS strategies. Questions were written in a multiple choice format and were tailored to general information that would be covered in the training sessions. (See Appendix B.)
**Autism Self-Efficacy Scale for Teachers (ASSET).** The Autism Self-Efficacy Scale for Teachers (ASSET; Ruble et al., 2013) was completed by participants at Time 1 and Time 2. The ASSET is a 30-item questionnaire designed to assess the self-efficacy of teachers for working with students with ASD. Specifically, the ASSET assesses teachers’ beliefs about their own abilities to conduct various tasks associated with teaching students with ASD. Participants were asked to indicate how certain they were that they could carry out each of a number of tasks, including describing student characteristics related to ASD, assessing the causes of problematic behavior, and designing positive behavioral supports for students. The initial study of the ASSET (Ruble et al., 2013) asked teachers to respond to items with one student in mind (e.g. “generate teaching activities for this student”). However, modifications were made for the present study to ask school professionals to think about students with ASD more generally (e.g. “generate teaching activities for my students”), given that most participants worked with multiple students with ASD. Participants responded to each item using a six-point Likert scale, with responses ranging from “cannot do” to “highly certain can do.”

In a preliminary study of the ASSET, Ruble et al. (2013) reported that the ASSET items appear to reflect one dominant factor, with high internal consistency (α=.96). Though the scale was initially developed such that teachers rated each item on a 100-point scale, analysis suggested that teachers did not utilize most response categories and that a 6-point response scale performed adequately (Ruble et al., 2013). The 6-point response scale was used in the present study. (See Appendix C.)

**Analytic Plan**

Data analysis proceeded in two stages. The first set of analyses used data from the 80 school professionals who completed the Time 1 survey. Participant demographic characteristics
were first examined. Next, bivariate correlations and multiple regression were used to evaluate variables associated with school professionals’ self-efficacy, using data from surveys completed at Time 1. Variables of interest included years working with students with ASD, knowledge about ASD, prior training in ASD, and prior training in PBS.

The second set of analyses examined differences in knowledge and self-efficacy scores between Time 1 and Time 2 using paired sample t-tests. Data from the 50 participants who provided matching numeric codes at Time 1 and Time 2 were used in these analyses.

**Results**

The first set of analyses examined variables associated with school professionals’ self-efficacy for working with students with ASD prior to participating in training on ASD and EBPs. First, examination of the bivariate correlation matrix revealed significant correlations among many of the variables (See Table 2). In particular, large correlations were observed between prior training in ASD and prior training in PBS ($r = .584, p < .001$) and between prior training in ASD and knowledge about ASD ($r = .502, p < .001$), indicating that a higher level of training in ASD is associated with both more knowledge about ASD and more training in PBS. In addition, small to moderate correlations were observed between prior training in PBS and knowledge about ASD ($r = .379, p = .001$) and between prior training in PBS and years of experience working with students with ASD ($r = .265, p = .021$). Experience working with students with ASD was not significantly correlated with either prior training ASD or knowledge about ASD.

Next, multiple linear regression was used to further examine variables of interest including years of experience working with students with ASD, knowledge about ASD, and prior training in ASD and PBS. All predictor variables were centered to aid in comparisons, as suggested by Kraemer and Blasey (2004). Tests for multicollinearity indicated no concerns
regarding multicollinearity (VIF < 2 for all predictors). Due to missing data from four
participants, data from 76 participants were included in the multiple regression analysis.

The four-predictor model accounted for 43% of the variance in school professionals’ self-
efficacy for working with ASD, $F(4, 71) = 13.31, p < .001$. Thus, when analyzed together,
knowledge about ASD, prior experience working with students with ASD, and prior training in
ASD and PBS are associated with teachers’ self-efficacy for working with students with ASD. In
particular, prior training in ASD emerged as the best predictor of self-efficacy, $\beta = .477, t =$
3.992, $p < .001$, followed by prior training in PBS, $\beta = .262, t = 2.296, p = .025$. Neither
knowledge about ASD ($\beta = -.088, t = -.825, p = .412$) nor years of experience working with
students with ASD ($\beta = .095, t = 1.002, p = .320$) emerged as significant predictors. (See Figure
1 for a display of the results.)

The second set of analyses focused on the impact of school professionals’ participation in
training on ASD and PBS on their knowledge and self-efficacy related to working with students
with ASD. Paired-samples $t$-tests were used to compare school professionals’ knowledge and
self-efficacy prior to and following participation in the training on ASD and PBS. Scores on the
knowledge questionnaire were significantly higher following the training ($M = 12.38, SD = 2.09$)
than prior to it ($M = 11.28, SD = 2.23$), $t = 4.01, p < .001$, as hypothesized (See Figure 2). In
addition, school professionals reported higher self-efficacy for working with students with ASD
following the training ($M = 5.01, SD = 0.65$) than prior to participation ($M = 4.16, SD = 0.94$), $t$
$= 7.81, p < .001$ (See Figure 3).

To further probe the finding that school professionals’ self-efficacy increased following
the training, exploratory post hoc analyses were conducted to examine factors that may
contribute to this increase. Of particular interest was whether school professionals’ knowledge,
training, and experience prior to beginning the training affected the degree to which their self-efficacy rose following the training. To examine this question, hierarchical multiple regression was employed to assess the impact of knowledge, training, and experience related to ASD on school professionals’ self-efficacy following training, controlling for self-efficacy prior to participating in the training. Due to missing data, 48 participants were included in the analysis. Self-efficacy at Time 1 was entered as a covariate in Step 1 of the model. Experience with ASD, knowledge about ASD at Time 1, and prior training in ASD and PBS were entered as predictors in Step 2 of the model. As above, predictor variables and covariates were centered prior to analysis. The full hierarchical regression model predicting Time 2 self-efficacy was significant, $F(5, 42) = 4.40, p = .003$. However, after controlling for Time 1 self-efficacy, none of the exploratory predictor variables explained a significant amount of the variance in self-efficacy (See Table 3 for beta weights). Thus, it appears the self-efficacy reported at Time 1 was the best predictor of self-efficacy at Time 2.

**Discussion**

The purpose of the present study was twofold: to examine predictors of self-efficacy among school professionals working with students with ASD and to assess the impact of training in ASD and EBPs on knowledge and self-efficacy specifically related to working with students with ASD. Findings highlighted the impact of training on school professionals’ self-efficacy, with prior training in ASD and PBS emerging as significant predictors of self-efficacy for working with students with ASD. In addition, school professionals’ knowledge and self-efficacy increased following participation in the training, providing preliminary evidence that training in EBPs can enhance school professionals’ belief in their abilities to successfully work with students with ASD. These self-efficacy beliefs may be particularly important for individuals
working with students with ASD, given both the unique needs of the ASD population (Iovannone et al., 2003) and the heightened risk of burnout among teachers with ASD (Coman et al., 2013). Taken together, the existing evidence on positive outcomes associated with teacher self-efficacy (e.g. Ross, 1998) and the impact teachers have on students with ASD (e.g. Ruble & McGrew, 2013), the present findings highlight the particular need for providing quality training to school professionals working with students with ASD.

The importance of training for school professionals who work with ASD has been emphasized numerous times (e.g. Alexander et al., 2014; Barnhill et al., 2014; Morrier et al., 2011). It has been argued that training is particularly imperative for individuals who work with students with ASD, due to factors including deficits in communication and social interaction often characteristic of students with ASD, the need for coordination of services for students with ASD, and the likelihood that teachers must utilize specialized instruction techniques for these students (Scheuermann, Webber, Boutot, & Goodwin, 2003). Scheuermann et al. further contended that professionals who work with students with ASD must not only be knowledgeable about ASD but also be competent in the use of numerous strategies, including strategies for teaching communication skills, teaching social skills, and addressing adaptive behavior deficits and problem behaviors. With training in and mastery of these bodies of knowledge and skills, teachers are likely to feel more confident and competent working with students with ASD, enhancing their self-efficacy beliefs in ways that ideally will ultimately benefit their students (Ross, 1998). The present finding that training in ASD and PBS are associated with school professionals’ self-efficacy for working with students with ASD provides preliminary evidence for this link.
Whereas self-reported prior training in ASD and PBS were both associated with school professionals’ self-efficacy, knowledge about ASD and prior years of experience working with students with ASD were not. The finding that experience working with the ASD population is not associated with higher self-efficacy is somewhat surprising, but it is not unprecedented in the literature. Ruble et al. (2011) also reported that experience teaching students with ASD was not correlated with teachers’ self-efficacy, offering a number of possible explanations for this finding. One possibility offered by Ruble et al. is that teachers do not draw on their prior experience with students with ASD when rating their abilities to successfully work with this population, due in part to the differences among students with ASD and the need for individualized planning and supports for each student. An additional explanation is that teachers with more experience working with students with ASD have not necessarily received more training for doing so, a possibility supported by the reported unevenness of teacher training programs (Barnhill et al., 2014).

The finding that knowledge about ASD and PBS was not correlated with self-efficacy for working with students with ASD was also unexpected. The knowledge questionnaire used in the present study was tailored specifically to the content provided in the training on ASD and EBPs. It was anticipated that greater knowledge about these topics would enable school professionals to utilize strategies shown to be effective for working with students with ASD, which in turn is expected to bolster feelings of self-efficacy. However, it may be the case that knowledge alone is not sufficient to enable school professionals to feel efficacious in working with students with ASD, suggesting a potential need for training strategies that move beyond didactic lectures and seminars to offer direct coaching and feedback, as suggested by Morrier et al. (2011).
In addition to documenting an association between prior training and self-efficacy for working with students with ASD, the present study provided preliminary evidence that a training on ASD and EBPs may have a positive impact on both knowledge about and self-efficacy for working with students with ASD. This finding is in line with work by Jennett et al. (2003), who reported that commitment to a particular philosophy for working with students with ASD is correlated with teachers’ self-efficacy. To the extent that commitment to a teaching philosophy is reflective of training in that philosophy, it would seem that training and background in strategies that are effective for working with students with ASD play a key role in self-efficacy. Ross (1998) wrote that while few interventions have attempted to increase teacher self-efficacy, it appears that successful interventions may be those that target teacher skills, especially when teachers implement the suggested intervention and engage in discussion on the topic with their peers. It may be that the present training, which was conducted in a group format, provided the opportunity for school professionals to engage in discussion with their colleagues regarding EBPs and their own confidence in implementing them.

Although the present findings provide preliminary evidence for the positive impact of training on school professionals’ self-efficacy, present analyses were unable to tease apart differential benefits of the training as a function of participant characteristics. When controlling for school professionals’ reported self-efficacy prior to beginning the training, neither experience, prior knowledge, nor prior training were associated with self-efficacy following the training. Though it may have been expected that training in ASD and EBPs would be most important for school professionals who had not received prior training, this did not appear to be the case. A number of explanations for this finding seem possible. One possibility is that all participants derived relatively equal benefit from the training, regardless of prior experience with
or training regarding working with students with ASD. A second possibility is that this type of training does have differential benefit, but that factors determining who benefits most were not measured in the present study. A third possibility is that following training, there was not enough variability in self-efficacy scores to allow for associations to emerge. Further investigation of this question could allow for more targeted training of school professionals.

The present study was characterized by two particular strengths. The first was the use of a measure of self-efficacy designed specifically for teachers of students with ASD (Ruble et al., 2013). Because self-efficacy is specific to a particular task and affected by the demands of a given situation, use of an instrument that incorporates the variety of tasks required of teachers of students with ASD is likely to provide a more sensitive and nuanced measure of self-efficacy than would a measure of general teacher self-efficacy. The ASSET was designed for use with teachers of young students with ASD (L. Ruble, personal communication, May 14, 2015); the present study extended the use of the instrument both to individuals who work with older students with ASD and to school professionals other than special education teachers. Further investigation of the use of this instrument for these purposes is warranted, as the existence of a validated instrument for measuring self-efficacy among individuals who work with students with ASD would be a benefit to this area of research.

A second strength of the present study was the design of the training in which school professionals participated. The training focused on the PTR model (Dunlap et al., 2010), which uses evidence-based strategies for working with students with ASD. Moreover, the training targeted and addressed documented barriers to implementation of EBPs in school settings, including staff selection, program evaluation, ongoing consultation, and administrative support (Cook & Odom, 2013). Including a variety of personnel from each school in the training and
requiring the participation of at least one administrator is expected to increase the likelihood that strategies discussed during the training will be implemented. In addition, by conducting training in each school over a period of several months, trainers were able to provide ongoing feedback and be responsive to school professionals’ needs and concerns. Recognizing and addressing barriers to implementation of EBPs is essential in maximizing the likelihood that training provided to school professionals will be utilized within the school setting.

Notwithstanding these strengths, the present study had some limitations that should be addressed in future research. First, challenges in data collection resulted in a reduced number of participants providing survey data at both Time 1 and Time 2. The nature of school-based training provided over the course of multiple months occasionally led to different participants attending training sessions at different times. School professionals sometimes left their positions during the course of training; others were invited to join as training progressed due to shifting student needs. Additionally, the enhanced confidentiality afforded to participants by allowing school team members to assign numeric survey identifiers unfortunately resulted in less control over data collection. That one school misplaced their list of codes between Time 1 and Time 2 resulted in the loss of survey data, and other mismatches between Time 1 and Time 2 codes could be attributed to multiple school professionals entering the same code. Modifications to survey procedures such as management of participant codes by the researchers could ameliorate this issue in the future.

Second, the present study was somewhat limited by relying entirely on participant self-report measures. Though measurement of self-efficacy is inherently reliant on self-report, collecting additional objective data on school professionals’ behavior (e.g. teaching methods used, adherence to PTR strategies) could provide context to self-reported increases in feelings of
efficacy. Further, the measurement of prior training was also limited by its subjective nature. The finding that school professionals’ who reported receiving more training on ASD and PBS had higher self-efficacy is an indication of the importance of training, but collecting more specific and objective data about prior training would allow for greater understanding of the ways in which training contributes to self-efficacy. For instance, data regarding topics covered in training, duration of training, and training methods used (e.g. didactic presentation, coaching) would provide additional information about how to best structure training sessions.

Third, the present study addressed only a selection of the numerous variables that may influence school professionals’ self-efficacy. Variables of interest in the present study included knowledge about ASD, previous experience working with students with ASD, and prior training in ASD and PBS. However, many other variables have been put forth as factors influencing self-efficacy, including school professionals’ prior success in working with students with ASD (Ruble et al., 2011), school factors such as class size, available resources, and perceived support from colleagues (Ross, 1998), and school professionals’ perceptions of their students (Ross, Cousins, & Gadalla, 1996). It is also possible that self-efficacy varies as a function of student characteristics, including age, cognitive ability, and communication level. Future investigation into variables associated with self-efficacy and variables associated with differential benefit from training will assist in targeting and improving self-efficacy for working with students with ASD.

Finally, it must be acknowledged that the study of self-efficacy specific to working with students with ASD is in its infancy. The ASSET is a new measure that is not yet well validated or well researched. Initial psychometric properties (Ruble et al., 2013) were based on a small sample of special education teachers. Moreover, the measure was designed primarily for teachers of young students with ASD (L. Ruble, personal communication, May 14, 2015). Thus, the
present use of the ASSET with a sample of school professionals holding a variety of roles is unprecedented. Further research should more closely examine the use of the ASSET with different groups of school professionals to determine its suitability for this purpose, as having a well-validated measure of self-efficacy specific to working with students with ASD will be of great use to those pursuing research on the education of students with ASD.

Continued research into self-efficacy and training of school professionals represents a fruitful avenue for understanding how best to provide quality educational services to students with ASD. Currently, more is known than ever before about effective practices for working with this population. With the recent release of Phase Two of the National Autism Center’s National Standards Project (2015), there exist 14 thoroughly researched, established interventions and an additional 18 interventions labeled as ‘emerging interventions,’ many of which are applicable to school settings. Providing training on these interventions to school professionals and limiting the barriers to their implementation represent two key pathways to maximizing both the educational experience of students with ASD and the efficacy with which school professionals believe they are able to provide these experiences.
References


*Teacher Education and Special Education, 38*, 1-15.


Table 1

**Participant Demographics**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total participants</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>Sex*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>72</td>
<td>90</td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Highest Degree Received*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Associate’s degree</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>72</td>
<td>90</td>
</tr>
<tr>
<td>Doctorate</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Role in school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special education teachers</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>General education teachers</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>School psychologists</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Speech language pathologists</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>Administrators</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Other teachers**</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Paraprofessionals</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Social workers</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Director of special education</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Chair of Committee on Special Education</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>School counselor</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Occupational therapist</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Behavior specialist</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>School psychology practicum student</td>
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<td>1</td>
</tr>
<tr>
<td>Years in Present Role</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First year</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>2-4 years</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>5-7 years</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>8-10 years</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>31</td>
<td>39</td>
</tr>
</tbody>
</table>

*Note: One participant elected not to provide his or her sex, and another participant elected not to provide his or her education level.

**Other teachers** were those who taught subjects such as music, physical education, etc.
Table 2

Correlations Among Hypothesized Predictors of Self-Efficacy

<table>
<thead>
<tr>
<th></th>
<th>Experience with Students with ASD</th>
<th>Knowledge about ASD</th>
<th>Prior Training on ASD</th>
<th>Prior Training on PBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience with Students with ASD</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge about ASD</td>
<td>-.019</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior Training on ASD</td>
<td>.200</td>
<td>.502**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Prior Training on PBS</td>
<td>.265*</td>
<td>.379**</td>
<td>.584**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

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

**Correlation is significant at the 0.01 level (two-tailed).
Table 3

*Hierarchical Multiple Regression of Knowledge, Experience, and Training Regarding ASD on Self-Efficacy Scores of School Professionals*

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>Adjusted $R^2$</th>
<th>$\Delta R^2$</th>
<th>B</th>
<th>SE(B)</th>
<th>$\beta$</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>.568</td>
<td>.308</td>
<td></td>
<td>.391</td>
<td>.083</td>
<td>.568</td>
<td>4.69*</td>
</tr>
<tr>
<td>ASSET Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>.586</td>
<td>.266</td>
<td>.021</td>
<td>.414</td>
<td>.117</td>
<td>.602</td>
<td>3.54*</td>
</tr>
<tr>
<td>ASSET Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience with ASD</td>
<td>.048</td>
<td>.067</td>
<td>.097</td>
<td>.048</td>
<td>.059</td>
<td>.097</td>
<td>.713</td>
</tr>
<tr>
<td>Training in ASD</td>
<td>-.059</td>
<td>.127</td>
<td>-.089</td>
<td>-.059</td>
<td>.101</td>
<td>-.089</td>
<td>-.469</td>
</tr>
<tr>
<td>Training in PBS</td>
<td>-.030</td>
<td>.101</td>
<td>-.047</td>
<td>-.030</td>
<td>.042</td>
<td>-.047</td>
<td>-.294</td>
</tr>
<tr>
<td>Knowledge about ASD</td>
<td>.040</td>
<td>.042</td>
<td>.136</td>
<td>.040</td>
<td>.042</td>
<td>.136</td>
<td>.948</td>
</tr>
</tbody>
</table>

* $p < .01$
Figure 1.

Predicting Self-Efficacy from Knowledge, Experience, and Training Regarding ASD
Figure 2.

*ASD Knowledge Scores Prior to and Following Training*

Error bars represent 95% CI.
Figure 3.

*Self-Efficacy Scores Prior to and Following Training*

Error bars represent 95% CI
Appendix A
Demographic Questions

1. What role do you serve in the school?1
   • Parent of an individual with ASD
   • Teacher – special education teacher
   • Teacher – general education teacher
   • Teacher – special subject (e.g. P.E., art, music, etc.)
   • Paraprofessional
   • SLP
   • OT
   • PT
   • School counselor
   • Social worker
   • School psychologist
   • School nurse
   • CSE chairperson
   • Principal
   • Superintendent
   • Director of Special Education
   • Autism/Behavioral Specialist
   • Other (please specify)

2. How many years have you been serving in this role?
   • First year in this role
   • 2-4 years
   • 5-7 years
   • 8-10 years
   • More than 10 years

3. How many total years have you been working with students with ASD?
   • First year working with students with ASD
   • 2-4 years
   • 5-7 years
   • 8-10 years
   • More than 10 years

---

1 Participants were able to select as many roles as applied.
If you have worked with students with ASD prior to your current role, please describe. _____________________________________________________________

4. How many students with ASD do you currently work with?
   - 1-2 students
   - 3-4 students
   - 5-6 students
   - 7-8 students
   - More than 8 students

5. Please select the level of training you have received in the following areas:

<table>
<thead>
<tr>
<th></th>
<th>1 – I have received no training</th>
<th>2</th>
<th>3 – I have received some training</th>
<th>4</th>
<th>5 – I have received extensive training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism spectrum disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive behavior support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. What is the highest level of education you have received?
   - High school degree
   - Associate’s degree
   - Bachelor’s degree
   - Master’s degree
   - Doctorate

7. Please select your gender.
   - Female
   - Male
Appendix B
Knowledge about ASD Questions

1. The Center for Disease Control currently estimates that ____________ individuals have an autism spectrum disorder.
   - 1 in 50
   - 1 in 68
   - 1 in 88
   - 1 in 110

2. In May 2013, the DSM-5 was published. What statement is not true according to the new criteria?
   - There are three core characteristics of an autism spectrum disorder.
   - Autism, Asperger’s, and PDD-NOS are collapsed into one single diagnosis.
   - Although symptoms of autism must begin in early childhood, they may not be recognized fully until social demands exceed capacity.
   - Symptom severity for each of the areas of diagnostic criteria is now defined.

3. What IS an empirically validated and evidence-based intervention?
   - Facilitated Communication
   - Chelation
   - Positive Behavior Support
   - Auditory Integration Training

4. Which of the following related characteristics primarily involves a difficulty in regulating emotion and carrying out goal directed behavior?
   - Executive functions
   - Adaptive skills
   - Sensory processing
   - Communication skills

5. It is very important that the team select at least one Prevent, Teach, and Reinforce intervention when creating a behavior support plan.
   - True
   - False

6. A Functional Behavior Assessment includes the following:
• Prevention strategies
• Definition of behavior
• Teaching of new behavior or skill
• Antecedent interventions

7. The ability to understand another person’s perspective, feelings, and emotions, and attribute them as the cause of (or contributing to) that person’s actions is:
   • Executive functioning
   • Theory of mind
   • Central coherence
   • Social cognition

8. What is most important when choosing a reinforcer for an individual with ASD?
   • Cost
   • You (the provider) find it reinforcing
   • The individual with ASD finds it reinforcing
   • The rest of his/her classmates find it reinforcing

9. Sometimes when implementing supports and interventions, you may see an increase in undesired behaviors. This is known as:
   • Delayed reinforcement
   • Delayed gratification
   • Extinction burst
   • Extinction bubble

10. The following describes the Prevent Teach Reinforce (PTR) process except:
    • PTR is a model of Positive Behavior Support (PBS)
    • PTR is a Tier 3 intervention, meaning supports put in place will be intensive and individualized.
    • Research supports the effectiveness of the PTR process with individuals with autism, but may not be as effective with those who have other types of behavioral challenges.
    • PTR is aligned with the principles of applied behavior analysis (ABA)
11. Which of the following statements is true?
   - There is no longer a formal diagnosis of Asperger’s Syndrome according to the DSM-5
   - Girls are more likely to be given a diagnosis of autism
   - The rate of autism has stayed the same over the past decade
   - All children with autism spectrum disorders have a delay in verbal communication

12. One new skill that is essential to teach is the elimination of the individual’s restricted patterns of behavior, interests, or activities.
   - True
   - False

13. “He is disobedient” is an operational definition.
   - True
   - False

14. When going through the Person Centered Plan (PCP) process, it is not advised to include the individual with ASD.
   - True
   - False

15. The “A-B-Cs” of behavior stand for:
   - 
   - 
   - 

16. If the performance of a skill is too hard for a student, you would:
   - Identify the components of a skill in the order in which they occur and teach them
   - Provide modifications and/or supports necessary to promote them
   - Identify prerequisite skill deficits and begin teaching them
   - All of the above
Appendix C  
Autism Self-Efficacy Scale for Teachers

For each of the following questions, please rate how certain you are that you can do the things discussed with regard to your students with autism.

<table>
<thead>
<tr>
<th></th>
<th>Highly Certain Can Do</th>
<th>Cannot Do</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Conduct an assessment of my students’ developmental skills/ learning skills</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>2. Describe my students’ characteristics that relate to autism</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>3. Describe the implications for intervention based on my students’ characteristics of autism</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>4. Translate assessment information into teaching goals and objectives for my students</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>5. Write a measurable objective for my students</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>6. Write a teaching plan for my students based on goals and objectives</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>7. Generate teaching activities for my students</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>8. Organize the classroom to increase opportunities for learning for my students</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>9. Use visual structure to increase my students’ independence</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>10. Help my students understand others</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>11. Help my students be understood by others</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>12. Provide opportunities for communication in the classroom throughout the day for my students</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>13. Assess the causes of problematic behavior of my students</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>14. Design positive behavioral supports for my students</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>15. Implement positive behavioral supports for this student</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>16. Collect data to monitor my students’ progress toward objectives</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>17. Make use of data to re-evaluate my students’ goals and objectives</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>18. Assess my students’ social interaction skills</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>19. Assess my students’ play skills</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>20. Teach my student social interaction</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>21. Teach my students play skills</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Task Description</td>
<td>1</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>22.</td>
<td>Train peer models to improve the social skills of my students</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>Describe parental concerns regarding my students</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>Communicate and work effectively with my students’ parent(s) or caregiver</td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>Describe parental priorities for learning with regard to my students</td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td>Help my students remain engaged</td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>Sustain my students’ attention</td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>Motivate my students</td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>Help my students feel successful</td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>Teach my students academic skills</td>
<td></td>
</tr>
</tbody>
</table>