



# Boon or Burden: The Effect of Implementing Evidence-Based Practices on Teachers' Emotional Exhaustion

Rachel R. Ouellette<sup>1</sup> · Melanie Pellecchia<sup>3</sup> · Rinad S. Beidas<sup>3</sup> · Rukiya Wideman<sup>2</sup> · Ming Xie<sup>3</sup> · David S. Mandell<sup>3</sup>

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## Abstract

This study examined the association between (1) beginning-of-the-year emotional exhaustion and use of three evidence-based practices (EBP) for children with autism spectrum disorder; and (2) use of these EBP and end-of-year emotional exhaustion among 46 kindergarden to 2nd grade autism support teachers participating in a randomized trial. Emotional exhaustion was measured at the end and beginning of the school year using a subscale of the Maslach Burnout Inventory. Fidelity was measured using monthly observations, coded by research assistants trained to reliability. Correlations were used to examine unadjusted associations and ordinary least squares regression was used to examine associations adjusted for beginning-of-year burnout, years teaching, and average change in student cognitive functioning. Emotional exhaustion at the beginning of the year was not associated with EBP use. Greater fidelity to each EBP was associated with lower end-of-year emotional exhaustion (coefficients ranging from  $-.34$  to  $-1.13$ , all  $p$ 's  $< .05$ ). Results indicate that helping teachers implement EBP with greater fidelity may help reduce burnout, a substantial challenge in the field.

**Keywords** Autism spectrum disorder · Special education · Teachers · Emotional exhaustion · Fidelity

Special education teachers, similar to practitioners across a variety of disciplines and settings, face many barriers that inhibit their ability and motivation to implement evidence-based interventions the way they were designed (Greenwood 2001). In response, researchers, administrators, and policy makers have called for the study and use of enhanced implementation supports to help practitioners overcome barriers to implementation of evidence-based practice (EBP) for children and youth in general (Barlow et al. 1999; Burns 2003; Hoagwood et al. 2001), and for children with autism in particular (Dingfelder and Mandell 2011; Lord et al. 2005; Smith et al. 2007; Wong et al. 2015). The purpose of using EBP is to improve outcomes for children; however

their effects on the practitioners implementing them often is overlooked (Aarons and Palinkas 2007), particularly potential impacts on their well-being.

Most EBP for children with psychiatric and developmental disabilities require extensive time and commitment to implement as originally designed (Aarons and Palinkas 2007). EBP for children with autism spectrum disorder (ASD) are particularly complex, and often include multiple instructional components, delivered using a variety of instructional techniques (Arick et al. 2003; Dawson et al. 2010; Lopata et al. 2012; Odom et al. 2010). All of these instructional techniques require significant training and time to implement correctly (Mandell et al. 2013; Pellecchia et al. 2015), and often require substantial changes in the organizations in which they work to be implemented successfully (Greenhalgh et al. 2004; Glisson 1992). The impact of successful EBP implementation on practitioners' well-being and job effectiveness is largely unknown (Aarons 2005). The pressures and requirements associated with EBP implementation could create additional stressors. This may be particularly true for special education professionals, who are expected to implement and individualize a variety of programs and curricula for many students concurrently (Tomlinson et al. 2003). Teachers

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✉ Rachel R. Ouellette  
rouel001@fiu.edu

<sup>1</sup> Florida International University, DM 256, 11200 S.W. 8th Street, Miami, FL 33199, USA

<sup>2</sup> University of Maryland, Baltimore, USA

<sup>3</sup> University of Pennsylvania, Philadelphia, USA

may be uncertain regarding how a new EBP fits with their other roles and demands within the classroom, contributing to EBP or innovation fatigue, similar to that observed in other human services jobs (Beidas et al. 2015; Lindsay et al. 2009). On the other hand, training in EBP could decrease teacher burnout by providing them with tools to improve student functioning, which has been associated with decreased teacher stress (Friedman-Krauss et al. 2014).

Burnout often is used as a proxy for well-being among providers of children's services. Burnout is a syndrome comprising emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach et al. 1996). The most commonly researched component of burnout is emotional exhaustion, which refers to the extent to which an individual feels emotionally strained and depleted (Maslach and Jackson 1981). Emotional exhaustion has been found to best capture the central meaning of burnout (Cropanzano et al. 2003; Knudsen et al. 2006; Shirom 1989).

Emotional exhaustion negatively affects individuals' emotional and physical well-being (Lee and Ashforth 1996; Maslach and Leiter 1997) and impedes their job effectiveness. High emotional exhaustion has been associated with decreased job performance (Cropanzano et al. 2003), increased intentions to leave one's job (Blankertz and Robinson 1997; Geurts et al. 1998; Knudsen et al. 2009), and increased voluntary staff turnover (Wright and Cropanzano 1998; Beidas et al. 2016). Among special education teachers, between 30 and 40% of teachers leave the field within their first 5 years of teaching, with emotional exhaustion identified as one of the key contributors to this decision (Darling-Hammond 2001; Plash and Piotrowski 2006).

Emotional exhaustion has also been found to affect teachers' willingness and ability to learn and implement new EBPs (Kealey 2015; Ransford et al. 2009; Wehby et al. 2012). For example, Wehby et al. (2012) found that increased burnout among special education and general education teachers was associated with poorer implementation of a classroom management intervention and poorer teacher-coach alliance. Similarly, Domitrovich et al. (2015) found that greater emotional exhaustion reported by elementary school teachers at the beginning of the year was associated with decreased implementation of the Good Behavior Game across the year. These findings align with those from studies of community mental health settings, which found that higher emotional exhaustion predicted less use of EBP and increased turnover (Beidas et al. 2016). Intervention studies have found that reducing teacher stress can improve teachers' fidelity implementing evidence-based classroom management practices (Larson et al. 2018). While most research has found negative associations between emotional exhaustion and use of EBP, some researchers have found opposite findings, with greater emotional exhaustion before

implementation associated with greater fidelity following training and support (Domitrovich et al. 2009).

To our knowledge, few studies have examined the converse question: does EBP implementation affect practitioners' emotional exhaustion? Aarons et al. (2009), found that providers in a randomized trial in the child welfare system who received training and support in a home-based EBP for children reported less emotional exhaustion than providers who did not receive training in the EBP. This study however did not examine the specific association between fidelity of implementation and emotional exhaustion, instead comparing groups who received and did not receive training and support. Ross et al. (2012) also found that teachers in elementary schools implementing Positive Behavioral Interventions and Supports with high fidelity reported significantly lower levels of burnout than teachers in low fidelity schools. These results have not always been consistent however, as Ouellette et al. (2018) found no association between elementary school teachers' adherence to four classroom interventions to reduce disruptive behaviors and promote learning, and teacher stress, a construct highly correlated with emotional exhaustion.

The present study addresses two primary questions. We first examine the association between beginning-of-year emotional exhaustion among autism support teachers and end-of-year fidelity to a comprehensive classroom-based intervention for children with ASD. The objective of this analysis was to determine whether emotional exhaustion is a barrier to successful implementation. We then examine the association between end-of-year fidelity and end-of-year emotional exhaustion, controlling for beginning-of-year emotional exhaustion, to determine the effect of implementing an intervention with fidelity on teachers' well-being. Based on prior studies, we hypothesized that greater emotional exhaustion at baseline would be associated with lower program fidelity at the end of the year, and that greater fidelity of implementation would be associated with lower emotional exhaustion at the end of the year.

## Methods

### Participants

Participants were kindergarten-through-second-grade autism support teachers ( $n=46$ ) from the final year of a randomized, controlled trial conducted in partnership with the School District of Philadelphia (Mandell et al. 2013). In this year of the study, teachers in both arms received training in the intervention under study. Teachers worked in 46 classrooms spread across 38 schools. Most teachers (91%) were women; 72% identified as white, 24% as Black, 2% as Asian, and 2% as multi-ethnic. They had taught for an

average of 6.5 years ( $SD=8.0$ ). Autism support teachers in the district must have a master's degree in education and a certification in special education. Autism support classrooms in the district were capped at eight students; an average of 3.7 students per classroom were enrolled in the randomized trial. Students in the included classrooms ( $n=163$ ) were an average of 6.2 years old ( $SD=.87$ ); 14% were female; 39% were Black, 14% White, 12% Hispanic, 6% Asian, and 2% were described by their parents as of other races or ethnicities. Thirty percent of the students were in kindergarten during the third year of the study, 22% were in 1st grade, and 20% were in 2nd grade.

## Study Procedure

Eligible teachers included those working in one of the district's 52 kindergarten-through-second-grade autism support classrooms. Each teacher received a letter from the district, asking them to participate. Teachers were required to participate in training that the study team provided as part of professional development, but were not required to participate in the study. Prior to the randomized trial, no systematic training was provided to autism support teachers in the district and no standard curriculum or program was used in these classrooms. Teachers were randomized during the first 2 years of the randomized trial (Mandell et al. 2013) to receive one of two evidence-based programs for elementary school children with ASD. After reviewing year 1 study results, the district chose to implement one program, described below. Therefore, all teachers were trained at the beginning of the year and received ongoing coaching in the same behaviorally-based, comprehensive, classroom intervention for children with autism. The third year was the only year in which intervention intensity data was collected, in response to a new set of study questions; therefore, only data from the third year is included in the current study. All survey data were collected via paper surveys at the beginning and end of the school year. Implementation accuracy was measured for each intervention component via hour-long monthly observations, and intervention intensity was collected via self-report during monthly in-person check-ins with teachers. University and school district institutional review board approvals were obtained prior to initiating study procedures.

## Teacher Training

All teachers received intensive in-classroom training on the Strategies for Teaching based on Autism Research (STAR) program (Arick et al. 2004), a manualized program for children with autism that includes three instructional strategies based on the principles of applied behavior analysis: discrete

trial training, pivotal response training, and teaching within functional routines.

Discrete trial training (DT) is implemented using intensive one-to-one teaching sessions, with repeated practice of the same task for several successive teaching episodes and the use of reinforcers. Pivotal response training (PRT) typically consists of loosely structured sessions that are initiated and paced by the child; the teacher follows the child's lead while capturing and contriving teachable moments related to the context. Functional routines are predictable activities with an expected sequence of steps that occur naturally throughout the day. Functional routines instruction involves providing systematic prompts and cues to teach the child to participate independently in common school and self-care routines.

The STAR program recommends that each student receive at least two 20-min DT sessions and at least one PRT session per day. Functional routines instruction occurs naturally throughout the daily activities, and it is recommended that each student receive targeted instruction on one-to-two functional routines per day. Consultants trained by the STAR program developers provided teacher training and ongoing support. Teacher training included 3 days of intensive workshops at the start of the school year, ongoing full-day quarterly workshops during the school year, and ongoing in-classroom coaching provided for 2–3 h, twice per month, with all teachers receiving equivalent amounts of coaching. Consultants also assisted teachers with setting up classrooms and planning student lessons at the start of the school year.

## Measures

### Teacher Emotional Exhaustion

Teacher emotional exhaustion was the primary independent variable for aim 1 and the dependent variable for aim 2. It was measured using the emotional exhaustion subscale of the Maslach Burnout Inventory—Education Form (MBI; Maslach et al. 1996), a 22-item self-report measure designed to assess educators' emotional exhaustion, referring to emotional overextension; depersonalization, referring to withdrawal, unfeeling, and impersonal attitude towards students; and personal accomplishment, which measures teachers' feelings of efficacy, competence, and achievement in their jobs (Maslach and Jackson 1981). Teachers rated their experiences on a 7-point scale ranging from 0 ("never") to 6 ("every day"). The emotional exhaustion subscale, which was used in the present study, is composed of 9 items and includes such prompts as, "I feel emotionally drained from my work," "I feel fatigued when I get up in the morning and have to face another day on the job," and "I feel I'm working too hard on my job." We used the emotional exhaustion

subscale because it has been identified as the core component of burnout and because prior research suggests that it is most associated with issues related to EBP implementation (Aarons et al. 2009). The scale has good construct and predictive validity (Maslach and Jackson 1981), which has been demonstrated with teachers, with risk of burnout 5–12 times higher for teachers with average and high emotional exhaustion (Horn and Schaufeli 1998). In our study sample, the subscale had a Cronbach's alpha of .58 at baseline and .67 at follow-up.

### Program Fidelity

Teachers' fidelity to each of the three instructional components of the STAR program was measured as a function of their implementation accuracy and intervention intensity, utilizing a combined composite score (Pellecchia et al. 2015). Implementation accuracy was measured for each intervention component via hour-long monthly observations. During these observations, trained research assistants recorded the occurrence of each program component (discrete trial training, pivotal response training, and functional routines). Accuracy was coded for each of the three components on a 5-point scale using criteria specific to each teaching technique: 0 (does not implement), 1 (poor use), 2 (somewhat accurate), 3 (mostly accurate), and 4 (highly accurate). Accuracy ratings of 3 or 4 indicated acceptable levels of implementation accuracy for each intervention component. Research assistants conducting observations were trained to reliability with one of the authors (MP), herself an expert coder, on each step of the three program components. Training included didactic instruction on data coding procedures, role-playing, and practice coding. Research assistants were not allowed to begin coding observations until they had obtained 80% reliability with the expert coder for each program component.

Intervention intensity for each student was measured using teacher report for each instructional strategy. Classroom teachers reported how often they implemented the intervention with each student throughout the week. Intervention intensity was coded using a Likert scale ranging from 0 to 4 with the following criteria for each score: 0 (less than one time per week), 1 (one time per week), 2 (two to four times per week), 3 (one time per day), and 4 (two times per day). An average intensity score was calculated across students, with one score per classroom.

A composite score was calculated as the product of implementation accuracy and average intervention intensity, as in our prior studies (Pellecchia et al. 2015). The scale for the composite fidelity score could range from 0 to 16 for each treatment component (0–4 on intensity  $\times$  0–4 on accuracy). Each teacher's end-of-year fidelity score was used in the analyses to ensure equivalent exposure across

teachers to training and coaching around the program components, and because fidelity was highest on average at the end of the year. Fidelity to each instructional strategy (i.e., DT, PRT, and FR) was examined separately as well as combined, as fidelity to the different strategies has had variable associations with other outcomes. For example, fidelity to pivotal response training, but not functional routines or discrete trial training, has been positively associated with gains in student cognitive ability, even when implemented with low fidelity (Pellecchia et al. 2015).

### Other Covariates of Interest

Because student ability may affect both teachers' program implementation and burnout, we included students' Differential Ability Scales, Second Edition (DAS-II) baseline score and change over time. The DAS-II measures the cognitive abilities of children ranging in age from 2 years 6 months through 17 years 11 months across developmental levels (Elliott 1990). The reported General Conceptual Abilities (GCA) score is very reliable, with high test–retest results and scores and internal consistency. Changes in students' cognitive abilities were calculated by subtracting their baseline GCA scores from their scores at the end of the school year. An average change score was computed for each teacher and included as a covariate to determine whether changes in teacher emotional exhaustion was associated with changes in their students' cognition over time that may have resulted from use of the classroom interventions.

Because teachers' experience with children with autism also may affect implementation fidelity and burnout, we included teachers' years of experience teaching children with autism in the analysis, as measured by self-report.

### Statistical Analysis

Means and standard deviations were calculated for all variables of interest. Correlations also were calculated for all potential independent variables of interest. In particular, we were interested in the association between baseline emotional exhaustion and end-of-year fidelity (aim 1) and end-of-year program fidelity and end-of-year emotional exhaustion (aim 2). In addition to examining the associations with fidelity to each instructional strategy, we calculated an overall fidelity measure comprising the sum of the three fidelity scores. If the unadjusted association between the main independent and dependent variable was significant at  $p < .2$ , we examined the adjusted association, using ordinary least squares regression, controlling for teacher experience and change in student cognitive ability.

**Table 1** Sample characteristics (n = 46)

Variable	Mean	Standard deviation	Observed range	Possible range
Baseline emotional exhaustion	18.6	9.4	0–35	0–54
End of year emotional exhaustion	18.6	11.3	0–47	0–54
Change in DAS-II	3.8	6.5	– 15 to 15	–
Discrete trial training fidelity	4.1	3.5	0–12	0–16
Pivotal response training fidelity	3.0	2.7	0–12	0–16
Functional routines fidelity	8.1	4.6	0–16	0–16
Overall fidelity	15.2	9.4	0–37.5	0–48
Teacher experience in years	6.5	8.3	1–38	–

High range of emotional exhaustion = 27 or over, moderate range = 17–26, low range = 0–16  
 DAS-II Differential Ability Scales, Second Edition

**Table 2** Correlations between teacher beginning and end of year emotional exhaustion, fidelity, number of years teaching, and student DAS change scores

Measure	1	2	3	4	5	6	7	8
1. Emotional exhaustion—BOY	1.00							
2. Emotional exhaustion—EOY	.78***	1.00						
3. DAS-II change score	–.29*	–.42**	1.00					
4. Discrete trial training fidelity	–.09	–.39**	.27*	1.00				
5. Pivotal response training fidelity	.06	–.27*	.45**	.82***	1.00			
6. Functional routine fidelity	.16	–.11	.12	.59***	.54***	1.00		
7. EOY combined fidelity score	.06	–.28*	.29*	.90***	.86***	.86***	1.00	
8. Total years teaching	–.34**	–.16	.07	–.18	–.16	–.13	–.18	1.00

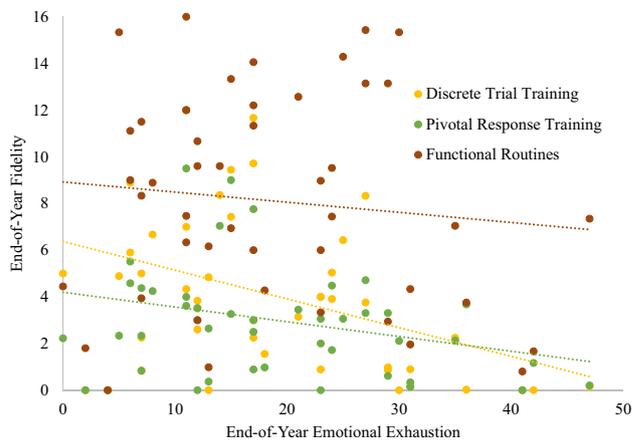
EOY End of year, BOY beginning of year

\*\*\*Correlation is significant at the 0.01 level (2-tailed); \*\*Correlation is significant at the 0.05 level (2-tailed); \*Correlation is significant at the 0.1 level (2-tailed)

**Results**

Sample characteristics are presented in Table 1. The mean baseline emotional exhaustion score was 18.6 out of 54 (SD = 9.4) and mean end of the year emotional exhaustion score also was 18.6 (SD = 11.3), with both of these values falling in the “moderate” range compared with other human services providers and educators (Maslach and Jackson 1981). Mean teacher fidelity at the end of the year was 4.1 on a 16-point scale for discrete trial training (SD = 3.5), 3.0 for pivotal response training (SD = 2.7), and 8.1 for functional routines (SD = 4.6). Mean change in cognitive functioning using the DAS was 3.8 points (SD = 6.5) and mean number of years teaching was 6.5 (SD = 8.3).

Correlations among variables are presented in Table 2. There was no correlation between beginning-of-year emotional exhaustion and fidelity to any instructional strategy (aim 1). End-of-year emotional exhaustion was moderately correlated with fidelity to discrete trial (–.39) and pivotal response (–.27) training, and the combined fidelity score (–.27) (aim 2). Figure 1 presents the unadjusted



**Fig. 1** Unadjusted scatterplot depicting end-of-year emotional exhaustion and end-of-year fidelity to the three instructional strategies

scatterplot with a line indicating the ordinary least squares best fit line of end-of-year emotional exhaustion and fidelity to the three instructional strategies.

There were some correlations among independent variables. Correlation between beginning and end-of-year

emotional exhaustion was high (.78), There were moderate correlations between beginning-of-year emotional exhaustion and change in DAS score ( $-.29$ ) and years of teaching experience ( $-.34$ ). End-of-year emotional exhaustion was moderately correlated with change in DAS score ( $-.42$ ). Use of each instructional strategy was moderately to highly correlated with each other.

Adjusted regression analyses for aim 1 are not presented because the unadjusted association between beginning-of-year emotional exhaustion and fidelity to any instructional strategy had  $p$  values  $> .25$ . Table 3 presents the results of the regression analyses predicting end-of-year emotional exhaustion (aim 2). For each instructional strategy and for the composite score, increased fidelity was associated with reduced emotional exhaustion at the end of the year, ranging from a  $-.34$  point reduction in emotional exhaustion for each point increase in overall fidelity to a  $-1.13$  point reduction for pivotal response training. In all four models, greater emotional exhaustion at baseline was associated with greater emotional exhaustion at the end of the year. Change in student functioning and years teaching students with autism

were not associated with end-of-year emotional exhaustion in the adjusted models.

## Discussion

The results of our study suggest that autism support teachers who achieved greater fidelity to any or all three EBP in which they had been trained and coached experienced less emotional exhaustion at the end of the year, a finding consistent with most other studies examining the association between use of EBP and emotional exhaustion (e.g., Aarons et al. 2009; Ross et al. 2012). This association was statistically significant even after controlling for baseline emotional exhaustion, changes in student outcomes, and teacher experience. Our finding that baseline emotional exhaustion is not significantly associated with use of EBP is not consistent with prior research (Kealey 2015; Wehby et al. 2012). One possible reason for this discrepancy is our reliance on direct observation measures of implementation; prior studies relied on self-report. It also is important to note that, in this

**Table 3** Adjusted regression models predicting end-of-year emotional exhaustion

	B	SE B	CI for B	t	F	df	adj. R <sup>2</sup>
Discrete trial training fidelity							
Overall model					28.53**	4	0.71
Fidelity	−0.89**	0.27	−1.44, −0.34	−3.24			
Change in DAS-II	−0.24	0.15	−0.54, 0.07	−1.57			
# of years teaching	0.07	0.12	−0.27, 0.32	0.62			
Emotional exhaustion—baseline	0.89**	0.11	0.67, 1.10	8.26			
Pivotal response training fidelity							
Overall model					26.55**	4	0.69
Fidelity	−1.13**	0.40	−1.95, −0.32	−2.81			
Change in DAS-II	−0.13	0.17	−0.47, 0.22	−0.74			
# of years teaching	0.11	0.12	−0.14, 0.35	0.90			
Emotional exhaustion—baseline	0.97**	0.11	0.74, 1.19	8.73			
Functional routines fidelity							
Overall model					24.80**	4	0.68
Fidelity	−0.51*	.22	−0.95, −0.07	−2.36			
Change in DAS-II	−0.29	0.16	−0.61, 0.02	−1.89			
# of years teaching	0.14	0.12	−0.10, 0.39	1.17			
Emotional exhaustion—baseline	0.97**	0.11	0.74, 1.20	8.47			
Combined end of year fidelity							
Overall model					28.51**	4	0.71
Fidelity	−0.34**	0.10	−0.55, −0.13	−3.24			
Change in DAS-II	−0.20	0.15	−0.51, 0.11	−1.30			
# of years teaching	0.10	0.12	−0.14, 0.34	0.85			
Emotional exhaustion—baseline	0.95**	0.11	0.74, 1.17	8.88			

All adjusted models control for baseline emotional exhaustion scores, years of teacher experience, and student change in DAS

CI Confidence interval, SE standard error

\*significant at  $p < .05$  level, \*\*significant at  $p < .01$  level

sample, average fidelity to each EBP was low; reduced variance in implementation also may have affected the observed association between emotional exhaustion and EBP fidelity.

It is intriguing to note that student progress, at least on our outcome measure, was associated with teachers' emotional exhaustion at the end of the year only in the unadjusted model. One interpretation is that fidelity accounts for more of the variance in end-of-year exhaustion than changes in student functioning. Another possibility, however, is that our outcome measure did not capture improvements in student performance that teachers who implemented the EBP with fidelity observed. For example, challenging behavior, which has been associated with teacher stress (Collie et al. 2012), was not measured. Testing the hypothesis that changes in student behavior mediate the association between fidelity and emotional exhaustion will require more granular measures of student outcome as well as increased statistical power to adequately examine for mediation. A second hypothesis is that implementing EBP with fidelity in itself is protective against emotional exhaustion. Use of EBP may provide more structure to the day and sense of purpose and self-efficacy for teachers. While we did not measure self-efficacy, other studies have found that self-efficacy is associated with both increased fidelity (Seibert 2003), and improved teacher outcomes such as stress (Klassen and Chiu 2010). Teachers who feel more capable of enacting positive student outcomes and successfully managing student problem behaviors may experience decreased emotional exhaustion. Future studies may benefit from assessing self-efficacy as a mediator between greater fidelity and lower emotional exhaustion.

Another important set of hypotheses for the observed associations relates to unobserved variables that affect both fidelity and emotional exhaustion. For example, organizational factors, such as increased principal support around the use of evidence-based strategies, has been associated with increased implementation fidelity (Han and Weiss 2005). Similarly, organizational influences such as positive principal leadership styles and a positive school climate have been associated with decreased teacher stress (Duyar et al. 2013; Ghavifekr and Pillai 2016; Zhang and Wu 2001). Therefore, characteristics of the school and its leadership may contribute both to successful implementation and decreased teacher emotional exhaustion. The teacher-coach alliance also could contribute to both EBP fidelity and emotional exhaustion, or play a moderating role in the relationship. For example, Wehby et al. (2012) found that burnout had a negative association with treatment implementation at low levels of teacher-coach alliance, but not at high levels of alliance.

Several important study limitations should be noted. The measurement design (measures at baseline and at the end of the year) does not allow for robust causal inference. We also do not have measures of some potentially confounding factors, such as the classroom or school climate

or teacher-coach alliance, or of potential mediating or moderating factors such as teachers' sense of efficacy and changes in student problem behaviors. There also was limited variability in teachers' fidelity scores across the three EBPs, particularly discrete trial training and pivotal response training, with few teachers achieving high fidelity. Internal consistency of our measures of emotional exhaustion was low relative to other studies, which may have attenuated our observed associations. Similarly, while raters of program fidelity trained to a benchmark against a master coder, we did not collect ongoing measures of inter-rater agreement, which also may have attenuated the observed associations. Finally, this study took place in special education classrooms in a large urban school district. This pattern of results may not transfer to general education teachers or in schools with a different organizational climate or available resources. However, large, urban school districts like this one serve a disproportionately large number of children in the United States; the US has 18,000 school districts and the top 100 (.6%) in size serve 22% of all children (U.S. Department of Education 2015). Therefore, challenges to implementation in these often under-resourced settings have particular salience.

## Conclusion

Despite these limitations, there are important implications related to our findings. Burnout is associated with multiple negative outcomes, such as physical and emotional hazards (e.g., Lee and Ashforth 1996; Maslach and Leiter 1997), as well as high turnover (Wright and Cropanzano 1998; Beidas et al. 2016). Activities to support special education teachers in implementing evidence-based strategies may be one strategy to decrease emotional exhaustion. Helping teachers obtain high program fidelity in under-resourced schools may take more than training and coaching. By better understanding the strategies that lead to increased fidelity, we may both improve student outcomes and maximize the well-being of teachers serving them.

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## Compliance with Ethical Standards

**Conflict of interest** All authors declare that he/she has no conflict of interest.

**Ethical Approval** All procedures performed involving human participants were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

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