Promoting Equity in Teachers' Use of Behavior-Specific Praise With Self-Monitoring and Performance Feedback

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Abstract

This study examined the impact of teacher training interventions on establishing equity in teacher implementation of a common positive behavior classroom support strategy, behavior-specific praise (BSP), in four elementary classrooms. Teacher self-monitoring and written performance feedback were used to support teachers in improving classroom practices by establishing proportionate praise and discipline practices across racially diverse students. A multiple-baseline across participants design was used to evaluate the impact of self-monitoring and written performance feedback with and without equity-focused procedures on teacher delivery of BSP and reprimands and their perception of student classroom behavior. Results indicated that the typical self-monitoring and written performance feedback were effective in increasing the participating teachers' overall rates of delivering BSP and reducing reprimands; however, substantial disparities in praise delivery were observed among student racial groups across teachers. Additional feedback regarding equity was necessary for reducing disparities in teacher behavior. The results also indicated that teacher perception of student classroom behavior improved, as a result of the teacher training intervention.

Keywords

Each day throughout the United States, students from diverse racial backgrounds arrive at school in pursuit of their right to a free and equal public education. However, despite this constitutional right, disparities in educational outcomes persist and students of color receive different levels of academic and behavioral support than their White peers (Bal, 2016). Federal mandates, such as the No Child Left Behind (NCLB) Act of 2001 and its replacement, Every Student Succeeds Act (ESSA) of 2015, have been created to safeguard equity in education, but have had limited progress in ensuring the success of all students (McGuinn, 2016).

Statistics indicate that students of color are more likely to receive office discipline referrals (ODRs), be given out-of-school suspension, and drop out or be expelled from school than their White peers (Bal, 2016; U.S. Department of Education, 2016). In addition, they are more likely to be punished for subjective reasons such as disrespect, calling out, or speaking in a volume above conversation level than their White peers (Reno et al., 2018) and are at heightened risk of experiencing a negative relationship with their teachers compared with White peers (Decker et al., 2007). Skiba and colleagues (2002) reported that students of color are 2 or 3 times more likely to be expelled or suspended than their White peers, which perpetuates racial segregation and establishes

disparate access to the general education system and academic success. Yet, despite these concerns, there is limited empirical research dedicated to enhancing interventions to reduce discipline disproportionality in public schools.

Because students spend a majority of their time within classroom settings, it would follow that implementation of effective classroom instruction and management might provide a key for addressing inequities in academic and behavioral support. Effective classroom support requires explicit instruction of skills, prompts for appropriate behavior, and frequent feedback to students to ensure they are receiving positive feedback regularly and to increase successful independent performance of target skills (Anderson & Borgmeier, 2010; Cavanaugh, 2013). Behavior-specific praise (BSP) is likely to be considered as one of the core

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components of effective classroom support (Simonsen et al., 2008).

Behavior-Specific Praise

Researchers have attempted to increase teachers' use of BSP in an effort to improve student behavior. Unlike general praise statements, BSP requires a teacher to say or write the precise appropriate behavior or expectation exhibited by the student (e.g., "Good job helping Jon pick up his books, that was being very responsible!"). Martin et al. (2017) reported that increasing praise statements and decreasing negative statements in the classroom were effective in increasing academic engagement and on-task behavior among students. Moreover, BSP has been identified as a feasible and economical way to reinforce student behavior in the classroom, while decreasing negative corrective feedback (e.g., Simonsen et al., 2008).

Pisacreta et al. (2011) trained teachers to increase their ratio of BSP to corrective feedback to 1:1. The authors reported that modification of teacher training procedures to incorporate modeling and feedback was sufficient to increase the ratio to 1:1 and student disruptive behavior decreased with the ratio change. Caldarella and colleagues (2019) also found as teacher praise-to-reprimand ratios increased, the engagement of students at-risk for emotional and behavioral disorders increased during academic activities in elementary school classrooms. Considering teachers' use of praise is effective in promoting positive teacher–student relationships that can protect against student maladaptive problem behavior and referral to special education (McGrath & Bergen, 2015), it is imperative that coaches encourage teachers to increase praise-to-reprimand ratios.

Ennis et al. (2018) identified BSP as a low-intensity strategy to support student success and pointed out the importance of BSP for young children and students with disabilities. In a systematic review of teacher-delivered BSP on K–12 student performance, Royer et al. (2019) identified six studies that were of sufficient rigor to provide an evidence base for BSP use as a support strategy. The authors discussed an encouraging finding from their review concerning recent studies conducted in schools with diverse populations or reporting participant race and ethnicity information. The authors pointed to a need for future research to determine whether BSP would work for all types of students (including race and ethnicity) but did not discuss whether BSP might be a valuable tool to address discipline inequity.

Self-Monitoring and Performance Feedback

One method to increase the use of BSP is self-monitoring (Simonsen et al., 2013), which has been used to improve fidelity of implementing behavior interventions (Reinke et al., 2008). Simonsen et al. (2013) examined the effects of three self-monitoring methods (tally, rate, and count) on BSP delivery for five middle-school teachers. Results of this study indicated that tally and count methods produced the highest rates of BSP and fidelity of implementation. Although the current literature clearly indicates the benefits of BSP and self-monitoring on implementation of interventions to improve student outcomes, questions remain as to whether or not these student outcomes are proportionate across demographics (Rispoli et al., 2017).

Studies on teachers' use of self-monitoring often include performance feedback to promote the teachers' use of BSP and decrease reprimands (Bechtel et al., 2015; Briere et al., 2015; Reinke et al., 2008). Performance feedback typically involves directly observing the teacher, collecting data on performance, reviewing the data with the teacher, and providing positive and corrective feedback on performance (Bechtel et al., 2015). For instance, Briere et al. (2015) used a consultation package that included teacher self-monitoring and performance feedback, which was found to be effective in increasing teachers' praise delivery.

However, there has been limited research focused on methods for promoting equity in academic and social outcomes across racially diverse students. Due to the lack of diversity in student participants and limited racial or ethnic demographic reporting in the literature, it is not clear whether current classroom practices, including BSP and performance feedback, are equally effective in promoting successful outcomes for all students (Bal, 2015). The literature on teacher BSP has failed to provide information concerning its effectiveness across racially diverse students. Furthermore, the literature has yet to determine whether self-monitoring with performance feedback will increase teachers' delivery of equitable praise to students, or whether disparities in praise delivery will persist alongside disparities in discipline practices.

Current Study

To address inequity in discipline practices, educators must commit to developing strategies for not only an equitable decrease of discipline practices but also equitable increase of praise and reinforcement. There are insufficient data concerning the disproportionate use of praise and other reinforcement procedures, although national data clearly indicate that discipline is not distributed in an equitable manner in schools (Gregory et al., 2016; Reno et al., 2018; U.S. Department of Education, Office for Civil Rights, 2014). Therefore, the primary purpose of this study was to examine the impact of teacher self-monitoring and equity-focused performance feedback on establishing proportionate praise and discipline practices across racially diverse students in public elementary school classrooms. In this study, we define equity-focused performance feedback as measuring teacher's delivery of praise and discipline

(reprimands) according to student race and providing the teacher with that information. This feedback procedure is intended to help the teacher become aware of which students need more equitable praise and discipline responses without directly addressing the race of the targeted students. The following research questions were addressed in the study: (a) What are the effects of self-monitoring with standard performance feedback on teachers' use of BSP during instructional activities? (b) What are the effects of self-monitoring with equity-focused performance feedback on teachers' delivery of proportionate BSP to diverse students? (c) What are the effects of self-monitoring with equity-focused performance feedback on teachers' delivery of proportionate reprimands to diverse students? and (d) What are the effects of self-monitoring with equity-focused performance feedback on teachers' perception of student classroom behavior?

Method

Participants and Setting

The study took place in a public elementary school classroom environment in a suburban Southeastern U.S. school district where 42.2% of the students were receiving free or reduced-price lunch and 17.2% were receiving special education services. The participating school served a total of 686 students (White = 50.3%, Latinx = 24.6%, Black = 9.5%, Asian = 6.1%, American Indian = 1.0%, Pacific Islander = 0.6%, and Multi-Race = 7.9%) Grades Pre-K to 5 and had been implementing School-wide Positive Behavioral Interventions and Supports for 3 years. The researchers received the Institutional Review Board's approval to use deception throughout the recruitment and informed consent processes to minimize potential reactivity from teachers. Teachers' recruitment and informed consent processes did not include information regarding equity-focused procedures or the true purpose of the study. Four teachers, who provided academic instruction for students in Grades K–5 in inclusive general education classrooms, participated in the study.

The teachers utilized classroom management strategies, such as token economy systems and group contingencies, which are considered evidence-based practices (Maggin et al., 2017; Soares et al., 2016); however, they expressed having difficulty managing their classroom during instructional time periods due to students engaging in disruptive behavior. Teachers met the following inclusion criteria: (a) delivered less than one BSP statement per minute to their students during academic time periods, which was confirmed through one 30-min direct observation of the classroom; (b) had little or no previous experience using self-monitoring procedures to improve instructional practices; and (c) were willing to receive written performance feedback at the end of each intervention session. The specific criterion of one BSP statement per minute was used based on existing studies that reported the typical rates of BSP among teachers (e.g., Floress & Beschta, 2017).

All four participants were White female teachers, certified at the elementary level and working in general education classrooms. Teacher 1 held a dual master's degree in special education and curriculum writing and had been teaching for 20 years. Her fifth-grade classroom consisted of 20 students (White = 50%, Black = 20%, Latinx = 20%, and Other = 10%). Teacher 2 was a first-year teacher with a bachelor's degree in sociology. She taught a fourth-grade classroom with 22 students (White = 59.1%, Black = 18.2%, Latinx = 18.2%, and Other = 4.5%). Teacher 3 had 16 years of experience teaching in elementary education and early childhood and held a bachelor's degree. Her fourth-grade classroom consisted of 23 students (White = 43.5%, Black = 34.8%, Latinx = 21.7%, and Other = 9.5%). Finally, Teacher 4 had 14 years of teaching experience and held a bachelor's degree in social justice, a master's degree in criminal justice, and a second master's degree in special education. Her first-grade classroom had 21 students (White = 52.3%, Black = 19.1%, Latinx = 19.1%, and Other = 9.5%).

Data were collected during targeted instructional time periods identified by each individual teacher. The target academic time period chosen by Teacher 1 was Language Arts, which included whole group instruction, center activities, and writing worksheets. The target academic time period chosen by Teacher 2 was Social Studies, which included whole group instruction, worksheets, student presentations, and centers. The target academic time for Teacher 3 was Mathematics, which included whole group instruction, timed arithmetic exercises, and paper-based assessments. The target academic time period for Teacher 4 was Language Arts, which included whole group instruction, individual reading time, and phonics worksheets.

Dependent Variables and Measurement

Teachers' use of BSP and reprimands. The primary dependent variables were teachers' use of BSP and reprimands delivered to individual students during targeted instructional periods. To best examine the racial disparities in praise delivered to individual students, group or team BSP statements were not scored. BSP was defined as any positive verbal statement directed toward an individual student providing approval of on-task behavior and specific feedback for engagement in targeted instructional activities (Pisacreta et al., 2011). Examples of BSP included "Billy, nice job, sharing markers with your friend" or "Johna, I love how hard you're working on your math worksheet." Reprimands were defined as any negative verbal statement directed toward an individual student providing disapproval of behavior or feedback on

disengagement in targeted instructional activities. Examples of reprimands included, "Billy, stop calling out in class!" or "Johna, stop talking to Billy and get to work!"

Teachers' delivery of BSP and reprimands were scored using a frequency within 1-min intervals recording procedure to measure the number of BSP and reprimands delivered during an instructional time period and to accurately assess interobserver agreement (IOA). The data were disaggregated by four racial categories: (a) White, (b) Black, (c) Latinx, and (d) Other. Individuals in the Other category consisted of students from Asian, Pacific Islander, American Indian, or Alaska Native backgrounds. For the purpose of providing equity-focused performance feedback to teachers in the second intervention phase, data collectors recorded a tally next to individual student names on a separate data sheet in addition to marking each instance of the target teacher behaviors on a racially disaggregated data sheet. Data collection took place 2 to 5 times per week during 45-min target academic time periods.

Class-wide student behavior. The secondary dependent variable was class-wide student behavior measured by an adapted Direct Behavior Rating Scale (DBRS; Miller et al., 2014). The DBRS was used to assess teachers' daily overall perception of class-wide student behavior and consisted of three items (class-wide academic engagement, disruptive behavior, and respectful behavior). Teacher participants were asked to mark on a 0 to 10 number line (representing 0%–100%), the percentage of total time they perceived students to be academically engaged, disruptive, and respectful during the 45-min targeted instructional time period. The DBRS completion took approximately 30 s.

Teacher implementation fidelity. One yes/no checklist consisting of four items was used to assess teachers' adherence to the procedures during both intervention phases, which assessed whether the teachers: (a) had the self-monitoring clicker ready, (b) provided BSP contingent on student engagement in target on-task behavior, (c) ignored student disengagement or off-task behaviors, and (d) recorded on clicker each time BSP is implemented. Both adherence and quality of implementation were assessed by indicating whether the teacher implemented each implementation step and whether the step was implemented accurately, resulting in the highest possible implementation fidelity score of 8. The total score was converted to percentage by dividing the total scores earned by the total scores possible. For Teacher 1, the average level of fidelity was 90% (range = 63%–100%) in Phase 1 and 100% in all sessions of Phase 2. Teacher 2 averaged 92.5% (range = 87.5%–100%) in Phase 1 and 98.2% (range = 87.5%–100%) in Phase 2. Teacher 3 averaged 98.2% (range = 87.5%–100%) in Phase 1 and 100% in all sessions of Phase 2. Teacher 4 averaged 75% (range = 62.5%–87.5%) in Phase 1 and 83.3% (range =

62.5%–87.5%) in Phase 2. Although reprimands decreased across phases, Teacher 4 consistently implemented the third step (ignore student disengagement or off-task behavior) with diminished accuracy.

Researcher procedural integrity. In addition to teachers' implementation fidelity, the researcher's (first author) procedural integrity in delivering written performance feedback was assessed by a research assistant for an average of 40.5% of all intervention sessions across phases and teachers. Redacted screenshots of written performance feedback notes were randomly selected and adherence to performance feedback steps was scored to measure percentage of steps completed. The performance feedback steps included the following: (a) provided teacher with positive feedback, (b) provided feedback regarding areas for improvement with the teacher, and (c) answered any questions teacher may have regarding study procedures. In the second phase, one additional step was added to the feedback steps: provided feedback on equitable classroom practices. Procedural integrity data indicated that performance feedback was delivered with high integrity in both intervention phases with 100% in all reviewed sessions.

Social validity. Social validity of the intervention procedures was assessed at three points in time: immediately following the initial teacher training and at the conclusion of each intervention phase. An adapted Intervention Rating Profile (IR-15; Martens et al., 1985) consisting of 10 items on a 6-point Likert-type type scale was used to measure three dimensions of social validity: (a) acceptability of intervention goal, (b) acceptability of intervention procedures, and (c) acceptability of intervention outcomes.

Interobserver agreement. IOA was assessed for 35.4% of all sessions across all phases, ranging from 25% to 50% of sessions across all teacher participants. The observers independently and simultaneously collected data on target teacher behaviors, and interval-by-interval comparisons were used to calculate IOA for both teacher praise and reprimands. IOA was calculated by dividing the number of intervals with agreement by the total number of intervals and multiplying by 100%, resulting in percentage agreement between the two observers. IOA for Teacher 1 averaged 96.3% for praise and 96.8% for reprimands. For Teacher 2, IOA averaged 99.3% for praise and 99.0% for reprimands. For Teacher 3, it averaged 98.6% for praise and 98.8% for reprimands. For Teacher 4, IOA averaged 97.7% for praise and 98.1% for reprimands. Across phases, dependent variables, and teachers, the IOA ranged from 92% to 100%.

Experimental Design and Procedures

The outcomes of the study were evaluated using a concurrent multiple-baseline across classrooms design with an

ABC sequence consisting of three phases: (a) baseline, (b) self-monitoring and standard performance feedback, and (c) self-monitoring and equity-focused performance feedback.

Teacher screening process. Prior to collecting baseline data, the researcher conducted a brief 20-min interview with the teachers to discuss their background information, identify target academic time periods where frequent student disengagement or disruptive behaviors occurred, and discuss student demographic information. Upon completion of the interview, one 30-min classroom observation was conducted to determine whether teachers' rates of BSP met inclusion criteria for participation in the study.

Baseline. Baseline sessions were conducted during target academic time periods (Language Arts, Social Studies, or Mathematics) in which the researcher observed the participating teachers delivering academic demands to their classroom students, frequent occurrence of student disengagement and teacher reprimand, and low rates of BSP. Target academic periods were conducted as usual during a time in which ongoing classroom management strategies were used (e.g., color chart, transition warning, redirections, token systems, group contingencies). Self-monitoring with performance feedback and teachers' delivery of BSP were not in place during this baseline phase. Baseline data on participants' behaviors were collected during 45-min instructional activities, 2 to 5 days per week, for a period of 2 to 4 weeks.

Teacher training. Behavioral skills training (BST; Hogan et al., 2015) procedures were used to train teachers on appropriate deliverance of BSP and use of the self-monitoring system. The one-on-one training took approximately 30 min and consisted of four components: instructions, modeling, rehearsal, and feedback. First, teachers were provided with a brief overview of self-monitoring and instructions on how to effectively deliver BSP contingent on student on-task behavior and how to use the self-monitoring clicker to record their frequency of praise delivery. Teachers were provided with a list of BSP examples (e.g., saying "Great job raising your hand!") and non-examples (saying "very good") and asked to write down a list of five examples to discuss. Next, teachers were asked to play the role of the student during which the researcher modeled delivering BSP contingent on student engagement and proper use of the self-monitoring clicker. The clicker used was a palm held counter typically used for golfing. The researcher then played the role of the student and provided specific praise and corrective feedback to teachers at the conclusion of a 5-min role play scenario. Teachers were required to demonstrate all steps of the intervention with 100% accuracy and deliver a minimum of one BSP statement per minute during the role play before training was considered complete.

Phase 1: Teacher self-monitoring with standard performance feedback. Teachers independently recorded each instance of delivery of BSP with a self-monitoring clicker. At the conclusion of the session, the researcher provided the teacher with a hand-written note which included positive feedback for steps implemented correctly and corrective feedback regarding areas for improvement. Each performance feedback note included a positive statement for what the teacher did well, the number of BSP statements recorded by the researcher, and a statement about what could be approved upon. Teachers were encouraged to increase their frequency of BSP during each successive session. The researcher was available to answer any questions or concerns via phone call, email, or text message regarding written feedback. In this phase, data were collected during a minimum of two sessions per week for up to 3 weeks.

Phase 2: Teacher self-monitoring with equity-focused performance feedback. When a stable level in teacher data was observed over three consecutive sessions through visual inspection of the graphical data and the self-monitoring with standard performance feedback did not result in equitable improvement of teacher behavior, equity-focused performance feedback was introduced. At the beginning of this phase, the researcher met with the individual teachers for approximately 20 min to review a history of their performance in using the self-monitoring strategy and delivering BSP and to obtain an agreement on moving to the next phase. In this phase, teachers were encouraged to become self-aware of equitable classroom practices by delivering a minimum of one BSP statement to each of their students per session. Feedback delivered in this phase included all of the information provided in Phase 1; in addition, feedback in Phase 2 also included a list of the three students in the class who received the least amount of praise and the most amount of corrective feedback (reprimands), as well as a list of the three students who received the highest amount of BSP and the least amount of corrective feedback during the observation session.

Frequency data of the BSP and corrective feedback delivered to individual students were collected using a classroom seating chart in which the researcher marked a tally next to a student's name for each instance of BSP or reprimand. Students who received the highest amount of praise or corrective feedback varied by teacher. The feedback notes also indicated when teachers provided every student in their class with at least one BSP statement and when they did not deliver any corrective feedback to students during the 45-min session.

Fading. When stable patterns of teacher behaviors were established over three consecutive sessions, a fading phase was introduced to evaluate maintenance of changes in teacher behaviors without performance feedback. Amid the

fading process, teachers were provided with the option to discontinue self-monitoring their BSP statements. Only Teacher 1 opted to continue using the self-monitoring procedures during fading. Due to time constraints, only two probe data were collected with Teachers 1 and 2 during this phase over a 1- or 2-week time period.

Debriefing. Upon completion of data collection, the researcher met individually with teacher participants to conduct the debriefing process. During the debriefing process (approximately 10 min), the researcher told the teacher participants the true purpose of the study, provided with an explanation for why deception was used, and provided an opportunity to ask questions. At this time, the teacher participants were given the debriefing statement document and had the opportunity to refuse the use of their data for research purposes.

Results

Behavior-Specific Praise

Figure 1 displays the overall frequency of teacher BSP delivery across baseline and intervention phases. As shown in Figure 1, an immediate change in frequency of BSP was observed for three out of four teachers (Teachers, 1, 3, and 4) upon implementation of the self-monitoring and performance feedback procedures in Phase 1. For Teacher 2, an increased and stable level of BSP was observed beginning in the second session. Across teachers, there were no overlapping data points between baseline and Phase 1 with the exception of the first session in Teacher 2, demonstrating a large improvement in delivering BSP. Additional increases in frequency of BSP were observed when equity-focused performance feedback was introduced in Phase 2 for all four teachers although the change in level was small for Teacher 4.

Figure 2 presents data on rate of BSP per student disaggregated by racial group. Rate of praise per student of each racial group was compared with the overall rate per student in the classroom. As shown in the figure, a moderate to large change in level of praise rate per student was observed across teachers. However, varying levels of disparities of praise were observed among the racial groups. In Phase 1, Teacher 1 provided somewhat higher rates of praise to Latinx and White students than Black or Other students, but data showed overlap among groups in a few sessions. Teacher 2 data showed much overlap with no consistent differences in rates of praise among groups of students. Teachers 3 and 4 delivered higher rates of praise to White students during the last three and five sessions, respectively. In Phase 2, teacher BSP further increased for all four participants as shown in Figure 1. Disparities in praise delivery decreased for three out of four teachers as depicted in the

overlapping disaggregated data paths as shown in Figure 2. Furthermore, reductions in disparities continued during the fading phase for Teacher 1 and Teacher 2. A reduction in disparities was observed for the final three sessions of Phase 2 for Teacher 4.

Table 1 presents mean and range of BSP rate per student by racial group across teachers and phases. Overall, the mean rate of BSP per student increased from the baseline rates by 0.70 to 1.96 across teachers in Phase 1 and increased further by 1.40 to 2.05 in Phase 2. Increases in the mean rates were observed in each phase of intervention in all racial groups, and reductions in disparities were apparent in Phase 2. We did not present rate (response per min) data in a table or figure, but the mean BSP rate in baseline was between 0.08 and 0.17 across teachers, and it increased to between 0.40 and 0.93 in Phase 1 and increased further to between 0.57 and 1.13 in Phase 2 across teachers.

Reprimands

Figure 1 depicts the overall frequency of teacher reprimands. As shown in Figure 1, all four teachers displayed high frequency of reprimands during baseline with an increasing trend observed for three out of four teachers. A large and immediate decrease in frequency of reprimands was observed upon introduction of the first intervention across all teachers. There were no overlapping data points between baseline and Phase 1 in all four teachers, and the frequency of reprimands was far greater during baseline than during Phase 1 in Teacher 1, demonstrating a large treatment effect. When Phase 2 was implemented, reprimands continued to decrease in level for all four teachers. Between Phase 1 and Phase 2, only one or two data points overlapped in Teachers 1 to 3.

Figure 3 displays disparities in reprimands among the racial groups. The data paths across all four teachers indicate that in baseline the rates of reprimands per student were, for the most part, higher for Black students than for Latinx, White, and Other students; Teacher 3 showed the lowest rates of reprimands for White students, whereas Teacher 4 showed the lowest rates of reprimands for Other students. When Phase 1 intervention procedures were introduced, an immediate and drastic decrease in level of reprimands is shown for all four teachers. Immediate and large reductions in disparities were observed among racial demographic groups for Teacher 1 and Teacher 3. Reductions in disparities for Teacher 4 were observed during the final four sessions of intervention. In Phase 2, with the equity-focused feedback, equitable, low rates and equitable reprimands became more consistent across groups for Teachers 1 to 3. However, Teacher 4 showed equitable reprimands toward the end of Phase 2. Equitable teacher behavior persisted in the absence of performance feedback for Teacher 1 and Teacher 2 during fading. Although the rate per minute data are not presented in the
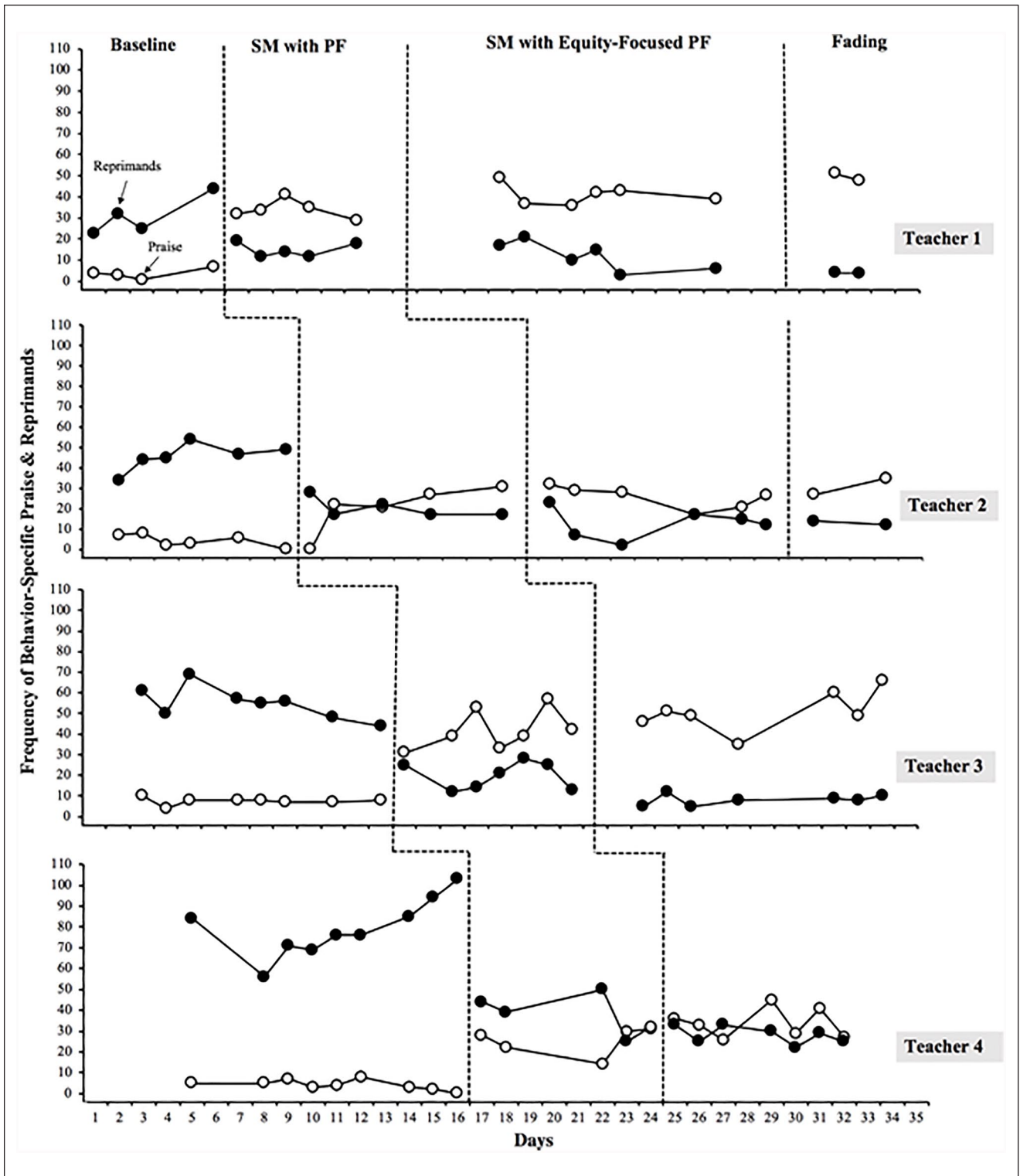
Figure 1. Overall frequency of behavior-specific praise and reprimands delivered by teachers across baseline, self-monitoring (SM) with performance feedback (PF), and SM with equity-focused PF phases. Closed circles depict reprimands; open circles depict praise.

figure, the mean reprimands rate per minute in baseline was between 0.69 and 1.76, and it decreased to between 0.33 and 0.82 in Phase 1 and decreased further to between 0.18 and 0.60 in Phase 2 across teachers.
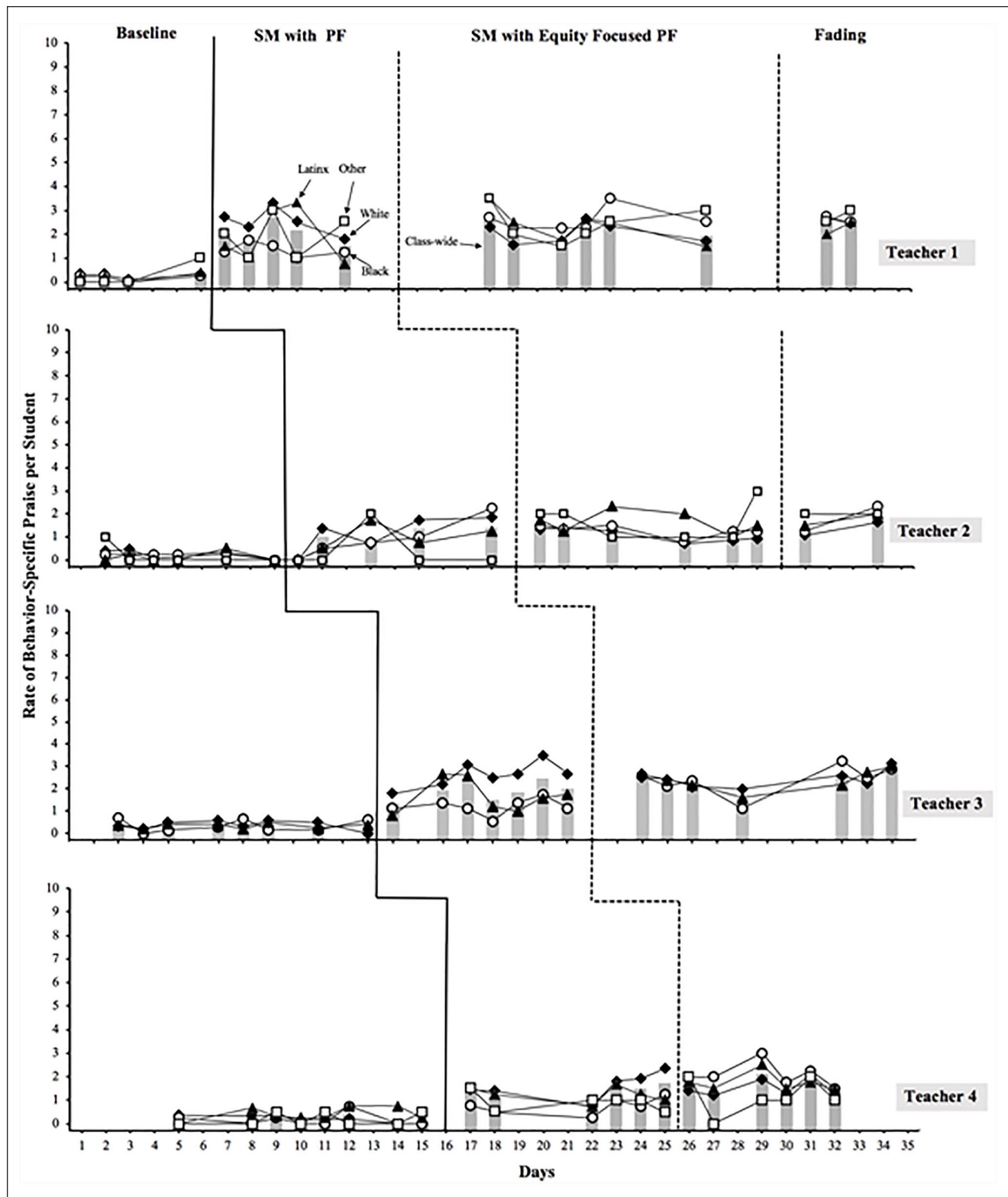
Figure 2. Average and racially disaggregated rate of behavior-specific praise per student delivered by teachers across phases and classroom teachers. Open circles depict Black; closed triangles depict Latinx; closed diamonds depict White; open squares depict Other; bars depict class-wide.
Note. SM = self-monitoring; PF = performance feedback.

Table I. Mean and Range of Behavior-Specific Praise Rate Per Student by Racial Group Across Teachers and Phases.

Participants	M (Range)		
	Baseline	Phase 1	Phase 2
Teacher 1			
White	0.27 (0.11–0.33)	2.52 (1.78–3.28)	2.04 (1.56–2.63)
Black	0.19 (0–0.25)	1.35 (1.0–1.75)	2.56 (2.25–3.50)
Latinx	0.23 (0–0.40)	1.91 (0.75–3.30)	2.40 (1.50–3.50)
Other	0.25 (0–1.00)	1.90 (1.00–3.00)	2.42 (1.50–3.50)
Overall	0.22 (0.05–0.35)	2.06 (1.52–2.73)	2.23 (1.80–2.60)
Teacher 2			
White	0.22 (0–0.46)	1.13 (0–1.85)	1.08 (0.7–1.64)
Black	0.27 (0–0.33)	0.90 (0–2.25)	1.26 (0.75–1.64)
Latinx	0.13 (0–0.50)	0.85 (0–1.75)	1.64 (1.00–2.33)
Other	0.17 (0–1.00)	0.40 (0–2.00)	1.64 (1.00–3.00)
Overall	0.20 (0–0.36)	0.90 (0–1.85)	1.25 (0.70–1.64)
Teacher 3			
White	0.37 (0–0.56)	2.64 (1.80–3.10)	2.43 (2.00–3.10)
Black	0.35 (0–0.71)	1.21 (0.57–1.75)	2.41 (1.13–3.25)
Latinx	0.34 (0.20–0.40)	1.66 (0.80–2.67)	2.40 (1.60–2.75)
Overall	0.36 (0.17–0.48)	1.92 (1.35–2.47)	2.41 (1.59–3.00)
Teacher 4			
White	0.20 (0–0.36)	1.61 (0.73–2.36)	1.52 (1.18–2.10)
Black	0.16 (0–0.75)	0.75 (0.25–1.25)	2.08 (1.50–3.00)
Latinx	0.41 (0.44–0.69)	1.24 (0.75–1.67)	1.75 (1.50–3.00)
Other	0.19 (0–0.50)	0.92 (0.50–1.50)	1.17 (0–2.00)
Overall	0.23 (0.11–0.35)	1.31 (0.73–2.36)	1.63 (1.29–2.14)

Class-Wide Student Behavior

Figure 4 presents data on the percentage of time academically engaged, respectful, and disruptive at the classroom level perceived by teachers across phases, which were measured using DBRS. All four teachers reported that class-wide academic engagement and respectful behavior increased during intervention. The average perceived levels of academic engagement and respectful behavior were higher in Phase 1 (self-monitoring [SM] with performance feedback) than those of baseline, and the levels further increased during Phase 2 (SM with equity-focused performance feedback) with the exception of Teacher 2 who gave relatively lower ratings during Phase 1 than during baseline. However, the perceived levels of both academic engagement and respectful behavior were higher in Phase 2 than in Phase 1 across all teachers. The same patterns were shown for disruptive behavior, reporting higher levels of disruptive behavior in baseline and lower levels of disruptive behavior in intervention with further decreases in disruptive behavior in Phase 2. Teacher 1 showed clear changes in perceived levels in all behaviors, whereas Teacher 4 showed minimal changes in all behaviors in both intervention phases. Teacher 2 and Teacher 3 ratings were somewhat variable in baseline, showing an increasing trend for respectful behavior or engagement behavior. The Phase 1 data were still variable for all behaviors in Teacher 2. However, the data showed stable high levels of academic engagement and respectful behavior and a decreasing trend or stable low levels of disruptive behavior during Phase 2.

Social Validity

Social validity scores indicated that overall, teacher participants conveyed high levels of acceptability of the intervention procedures and outcomes. On average, ratings on the 10-item, 6-point Likert-type scale ranged from 3 to 6, with an average score of 5.5 at the conclusion of the baseline phase, an average of 5.6 at the conclusion of Phase 1 of intervention, and an average of 5.8 at the conclusion of Phase 2 of intervention. Prior to implementing Phase 1 of intervention, teacher participants indicated an average score of 4 when asked if they provide their students with an enough praise in the classroom. Scores for this item increased to an average of 4.3 at the conclusion of Phase 1 of intervention and further increased to an average of 5.8 at the end of Phase 2 of intervention. In addition, anecdotal reports indicated that the training and intervention procedures enhanced self-awareness regarding equitable classroom practices and improved their overall quality of teaching.
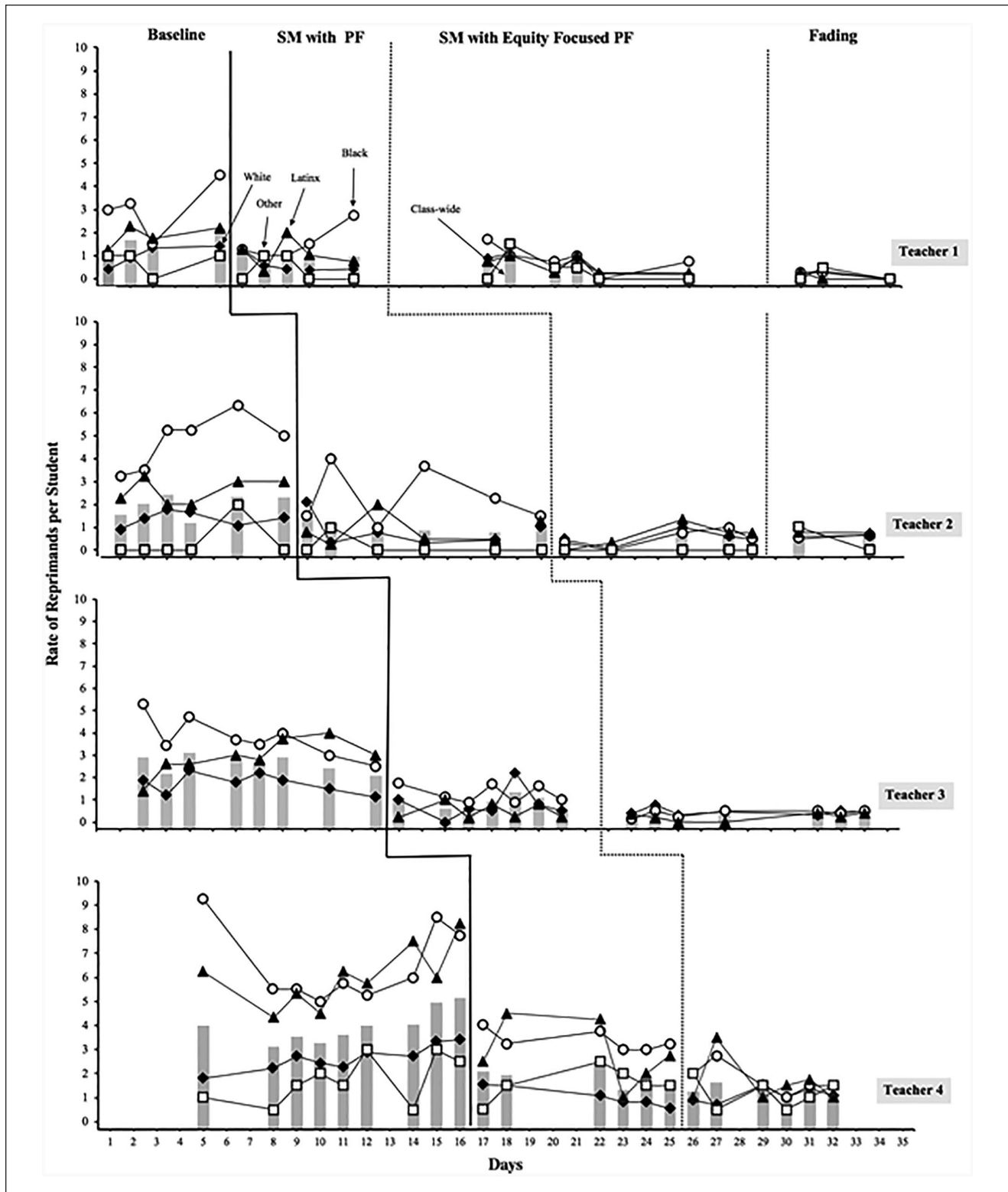
Figure 3. Average and racially disaggregated rate of reprimands per student delivered by teachers across phases and classroom teachers. Open circles depict Black; closed triangles depict Latinx; closed diamonds depict White; open squares depict Other; bars depict class-wide.
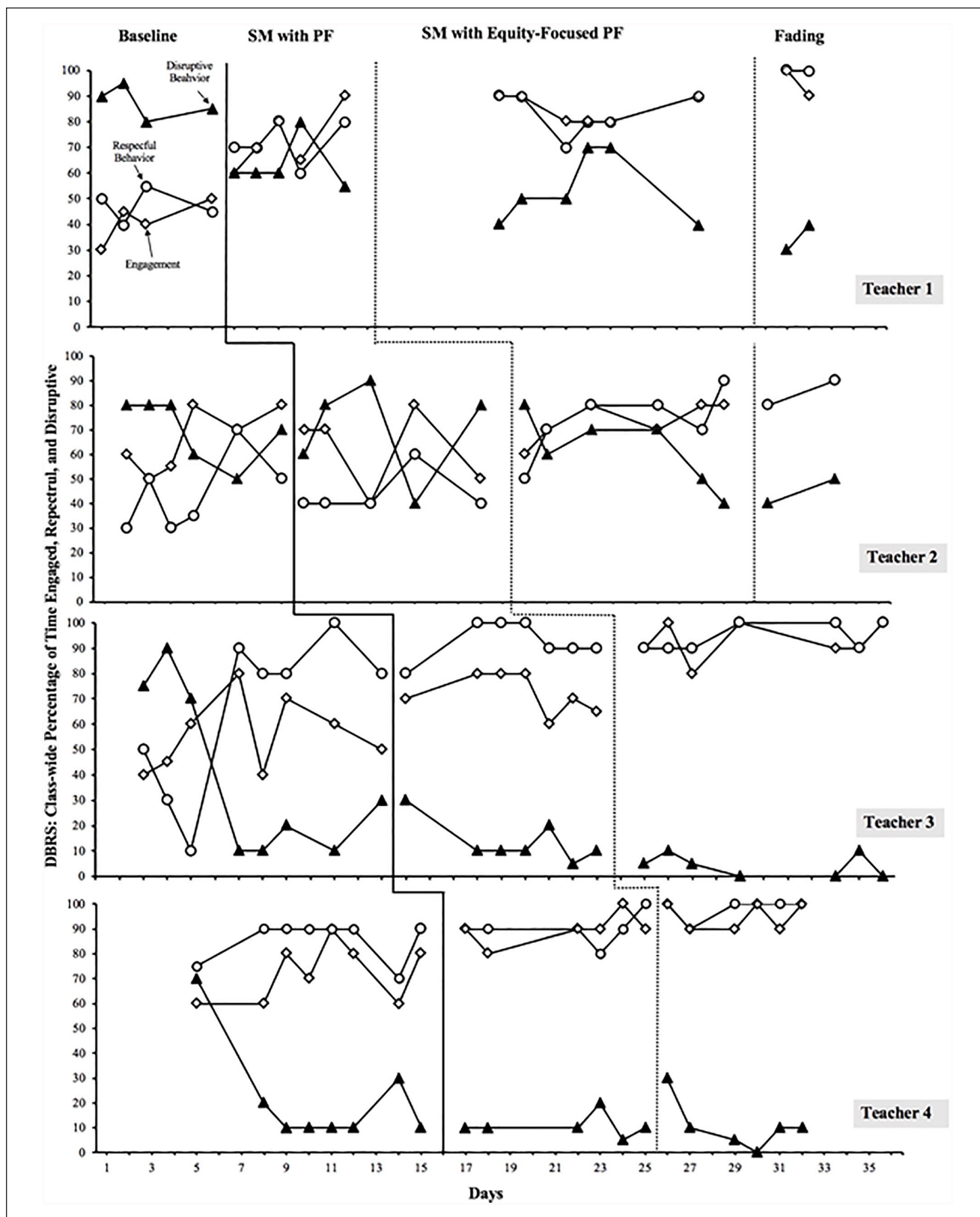*Note.* SM = self-monitoring; PF = performance feedback.

Figure 4. Class-wide percentage of time engaged, disruptive, and respectful indicated on DBRS by teachers across baseline, SM with PF, and SM with equity-focused PF phases. Closed triangles depict disruptive behavior; open circles depict respectful behavior; open diamonds depict academic engagement.

Note. DBRS = *Direct Behavior Rating Scale*; SM = self-monitoring; PF = performance feedback.

Discussion

This study evaluated the impact of self-monitoring and written performance feedback procedures on teacher delivery of BSP and reprimands, and their perception of student behavior in four elementary classrooms. Teacher self-monitoring and equity-focused written performance feedback were used to improve classroom practices by establishing proportionate praise and discipline practices across racially diverse students.

Major Findings and Implications

The results indicated that teacher self-monitoring and written performance feedback were effective in increasing BSP and decreasing reprimands across all teachers; the data patterns (level, immediacy of effect, and overlap) between baseline and Phase 1 clearly demonstrated treatment effects on both BSP and reprimands. However, disparities in the target outcomes were observed. During Phase 1 of intervention, students from Black and Latinx backgrounds consistently received lower rates of BSP and higher rates of reprimands when compared with students from White or Other backgrounds. Upon implementation of equity-focused performance feedback in Phase 2, reductions in disparities were observed across all participants. These data provide an impetus for further investigations into examining the role of implicit bias in positive classroom behavior support and the impact of equity-focused teacher training and coaching (Bal, 2015, 2018).

The results of the study support that self-monitoring combined with performance feedback is an effective way to impact the delivery of BSP and reprimands in classroom settings. However, the results suggest that typical self-monitoring and performance procedures alone may not be an effective way to promote equitable delivery of praise and reprimands to all racial groups of students. Adding the additional equity-focused written feedback on the teachers' use of equitable praise and reprimands delivery was necessary for establishing proportionate classroom practices across racially diverse students. The results also indicate that, as consistent with previous literature (Martin et al., 2017; Perle, 2018), all teachers perceived increased academic engagement and respectful behaviors and decreased disruptive behaviors in their students when their positive classroom practices were promoted.

Conversations about equity and implicit bias can be difficult for both the coach and the teacher. Other procedures (e.g., training teachers about implicit bias, having teachers specifically track praise and reprimands delivered to students by student race) can be used to address equity but more directly focus on the race of the targeted students. The results of this study are promising as an intervention that "indirectly" impacts the equity of BSP and reprimands *without* specifically addressing bias and racial inequities. The current process provides feedback to the teacher about responding to identified students in the future, without reference to student race. Such a procedure may impact discipline inequity effectively without engaging in emotionally charged and difficult discussions that may result in adversarial relationships and lack of responsiveness from teachers who may question the evidence of implicit bias. Thus, the goal of reducing disparities or promoting equity in education may be achieved by focusing on improving outcomes of all students (Gregory et al., 2016).

The findings from this study have a few practical implications. First, it would be valuable for coaches to ensure that rapport with teachers be established and their suggestions be incorporated into intervention procedures when working with them to improve instructional practice. In this study, it was critical to establish and maintain rapport with teachers from the beginning (Bradshaw et al., 2018). Initially, the research team planned to use typical performance feedback in the form of daily 5-min meetings at the conclusion of each 45-min intervention session. However, during the teacher interview process, teachers were concerned that meetings at the end of each session would disrupt classroom time. To incorporate teacher suggestions and establish rapport, the research team opted to provide daily performance feedback in the form of hand-written notes that were left on the teachers' desk at the end of each intervention session. As suggested in the literature, the results indicate that incorporating teacher suggestions into intervention procedures and designing interventions with high levels of contextual fit is imperative in helping teachers implement intervention with fidelity and improve social validity of intervention (Briere et al., 2015). As indicated in the social validity assessment data, all four participating teachers in this study reported high levels of acceptability of the intervention procedures and student outcomes.

Second, coaches who intend to address bias and racial inequities in education should promote the use of equity BSP among classroom teachers by providing individualized, equitable performance feedback. The teacher participants of this study anecdotally reported that participation in the study improved their quality of teaching and helped them become self-aware of which students were consistently receiving praise and reinforcement throughout the day and which students were receiving more negative and corrective feedback. Teacher 3 reported that she became mindful of certain students who exhibited stellar classroom behavior but did not receive praise and reinforcement due to limited time and the need to focus attention on correcting disruptive behavior in other students. By using those students as models for appropriate behavior and providing them with pivot praise, she was amazed to see that other students in her class began working hard to obtain praise. Teacher 1 explained that prior to participating in this study, her interactions with students

were centered primarily on correcting disruptive behavior. Initially, she believed that using BSP would be effortful and may hinder her ability to manage disruptive behaviors in the classroom. However, learning to use tactics, such as "catching the students being good" (Conroy et al., 2009) and pivot praise, helped her switch from corrective and negative interactions with students to being more positive. In addition, Teacher 1 reported that the equity-focused performance feedback helped her become more aware of how important it was to reach all students in a positive way. This suggests that, to promote teachers' use of equity BSP, it may be necessary to utilize BSP data disaggregated by individual students to provide individualized (Reinke et al., 2008), equity-focused performance feedback to teachers.

Third, teachers should be encouraged to monitor class-wide student behavior using DBRS to better understand the relationship between their increased use of BSP and improvement in student behavior. In this study, findings from the DBRS data in relation to teacher perception on student behaviors are consistent with the literature indicating that increasing teacher BSP promote student behavioral and academic success (Pisacreta et al., 2011).

Study Limitations and Future Directions

Although the results of this study are encouraging, they point to some important future considerations. First, there was no direct measure of the intervention procedures on student behavior. Thus, the researcher team was unable to draw conclusions regarding the impact of equitable BSP delivery on student academic performance or social and problem behaviors. The primary focus of the research was to facilitate teachers in implementing a positive classroom behavior support strategy, BSP, with an already established evidence base for enhancing student outcomes (Martin et al., 2017). However, there remains a limited understanding of the impact of equitable BSP delivery on student achievement and behavioral success. Future research should examine whether there is a functional relationship between reductions of disparities in classroom practices (praise and reprimand delivery) and student behavior. The effectiveness of BSP may vary as a reinforcer across cultures. Although self-monitoring and equity-focused performance feedback procedures were effective for equating teachers' use of BSP across racially diverse students, questions remain with regard to the varied effectiveness of BSP for increasing appropriate classroom behavior in students from diverse backgrounds. Future research should examine the impact of teacher implemented reinforcement strategies, such as BSP, on disaggregated student outcomes.

In conclusion, despite the growing body of literature examining disproportionality in U.S. public schools and its impact on academic achievement (Bal, 2018; Ladson-Billings, 2006), few studies have examined proactive strategies for improving

teacher self-awareness with regard to equitable classroom practices. Regardless of the limitations, this study demonstrated that teacher equity-focused self-monitoring and performance feedback may be an effective way to mitigate disproportional classroom practices caused by implicit bias. The results of this study suggest that positive class-wide interventions may be implemented disproportionately across students in racially diverse classrooms, and intervention outcomes may be improved by incorporating measures of equity in teacher training and coaching.

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