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A mixed-method study of paraprofessional roles, professional development, and needs for training in elementary schools

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Abstract

Paraprofessionals are critical school staff often responsible for students with or at risk for academic, behavioral, and social impairments. However, research on paraprofessional roles, professional development, and training needs is very limited. The present mixed-method study seeks to fill this gap by examining the student populations served, paraprofessionals' reported work setting, available professional development, and training needs. In a sample of 215 paraprofessionals from 62 schools, results indicated that paraprofessionals deliver interventions and supports to individual and small groups of students, often serve students who exhibit disruptive classroom behavior, and students who are eligible for special education services. Work setting consists primarily of a single classroom (general or special education) with multiple students. Paraprofessionals reported receiving 1–2 h of workshop-based professional development per year which is not job-embedded in the classroom settings. Nearly all participants reported the need for additional training in one or more topic areas with behavior management strategies, the most frequently identified are of training need. Implications for practice are discussed.

KEYWORDS
elementary schools, paraprofessionals, professional development

1 | INTRODUCTION

Paraprofessionals are increasingly present in elementary school classrooms, with expected growth of over 50,000 additional paraprofessionals in the United States school system by 2029 (Bureau of Labor Statistics, U.S. Department of Labor, 2020). Paraprofessionals assist teachers with academic instruction and behavior management, while working with the whole class, small groups, and individual students in the classroom (e.g., Fisher & Pleasants, 2012; Hall et al., 2010; McKenzie & Lewis, 2008; Riggs & Mueller, 2001; Sobek, 2016; Walker et al., 2020). Paraprofessionals support a broad range of students across disability categories, but have been found to work mostly with students with learning disabilities, autism, intellectual disabilities, and emotional disturbance (Carter et al., 2009). Although paraprofessionals support students with additional needs, a lack of clarity exists regarding their day-to-day tasks within the classroom, which suggests these individuals are often hired without information regarding their job-specific tasks (Mason et al., 2020). Lack of clarity regarding job roles and responsibilities coupled with supporting students with disabilities with complex needs can result in increased paraprofessional job-related stress and burnout (e.g., Garwood et al., 2017; Mason et al., 2020). Given previous research finding that paraprofessionals lack adequate professional development (PD) training (e.g., Dudek et al., 2018; Hall et al., 2010; Maggin et al., 2012; Reddy et al., 2020; Sobek, 2016), it is important to better understand the roles and responsibilities of paraprofessionals in elementary schools. Moreover, providing paraprofessionals with appropriate PD can prepare them for specific settings and roles they assume. This study aims to increase knowledge of the students with whom paraprofessionals work, the setting where they provide services, the PD they receive, and the reported training needs of this population.

1.1 | Paraprofessionals in the schools

Federal guidelines provide minimum qualifications for paraprofessionals, including a high school diploma and 2 years of experience working in a school setting (Individuals with Disabilities Education Act [IDEA], 2004); however, these guidelines are not always followed in practice. Paraprofessionals often lack the recommended background education (Fisher & Pleasants, 2012) and school experience (Brock & Carter, 2017), which is concerning given their role in working with students with the most severe impairments and needs (e.g., Broer et al., 2005; Carter et al., 2009; Giangreco et al., 2010; Lochman et al., 2010). In addition to lacking the requisite qualifications, paraprofessionals often do not receive the PD supports they need to effectively serve students in schools (Maggin et al., 2012). However, state and local unions often provide protections for paraprofessionals working in the schools. For example, the New Jersey Education Association (NJEA) allows paraprofessionals to obtain memberships via an annual fee that offers paraprofessionals support, additional job security, and job enhancement opportunities (NJEA, 2020). Additional protections exist at the local level, where school district unions support paraprofessionals' by limiting activities after school hours and some even prohibit the collection of student data (Anonymous, personal communication, November 5, 2019).

Although paraprofessionals traditionally served as teacher assistants or classroom aides assigned to organizing learning materials and assisting in lesson set-up and clean-up, their role has shifted in light of teacher shortages (Garcia & Weiss, 2019). Instead of working in the background of the classroom, paraprofessionals now work cooperatively with teachers to complete daily classroom activities. In elementary schools, it is common for paraprofessionals to support academic instruction and behavior management in individual, small group, and whole-class settings (e.g., Fisher & Pleasants, 2012; Hall et al., 2010; McKenzie & Lewis, 2008; Riggs & Mueller, 2001; Sobek, 2016; Walker et al., 2020). In addition to paraprofessional reported roles, parents and teachers often see paraprofessionals as essential in meeting student academic and behavioral needs in the classroom (e.g., French & Chopra, 1999; Harris, 2012). Specifically, when paraprofessionals are active members of the student's team, teacher and paraprofessional roles align more so than when the paraprofessional is not included in the school team (Harris, 2012). Further, many parents accept and view the

paraprofessional as an important team member who in some cases serves as a daily or weekly communication liaison between home and school (French & Chopra, 1999). Although paraprofessionals have many support roles for students in the classroom, including home–school connector, instructor, or physical health support (French & Chopra, 1999; Harris, 2012), they are most often charged with managing student engagement and behavior difficulties (e.g., Fisher & Pleasants, 2012; Sobek, 2016; Walker et al., 2020; Wiggs et al., 2020).

Despite the role of managing classroom behavior, paraprofessionals report limited knowledge of classroom standards and common behavior management practices in elementary school (e.g., Carter et al., 2009; Dudek et al., 2018; Wiggs et al., under review). Without sufficient training and support, paraprofessionals will utilize less effective strategies to foster learning and behaviors. For example, Bronstein et al. (2020) have found that paraprofessionals are more likely to engage in reactive, consequent control strategies (e.g., reprimands, time outs) than proactive behavior management strategies (i.e., antecedent modifications, behavior praise). Research-based PD approaches are needed to further paraprofessional knowledge and behavior support skills for students with disruptive behaviors in classroom settings (Reddy et al., 2020).

1.2 | Existing paraprofessional PD

Paraprofessional training is often lacking in schools and similarly, the limited available PD does not meet federal guidelines or standards outlined by the Council for Exceptional Children (Douglas et al., 2019). When whole group training is provided, it is in the form of large group, one-time workshops (Carter et al., 2009), which has been found to have no or limited skill transfer to authentic classroom settings (Yoon et al., 2007). When systematic training is provided, it is limited in content and insufficient at addressing every role the paraprofessional adopts in the classroom (Hall et al., 2010). Furthermore, the majority of paraprofessional training occurs on the job and is provided by teacher supervisors who lack the time and resources to provide adequate training (Biggs et al., 2019; Mason et al., 2018). Although years of experience have been found to decrease paraprofessionals' need for training (Carter et al., 2009), experience alone is likely insufficient to enable paraprofessionals to fully address students' complex behavioral and development needs. Further, paraprofessionals who are in under-resourced schools may have unique training needs, given the prevalence of burnout and turnover in that population (Borman & Dowling, 2008; Boyd et al., 2012; Jacobs et al., 2017; Smith & Ingersoll, 2004). To sufficiently prepare paraprofessionals to support students, the training needs of this growing population must be better understood.

1.3 | Purpose of the current paper

To understand how to best support paraprofessionals, it is important to clarify their specific roles, existing training experiences, and perceived training needs. Further, given burnout and turnover among paraprofessionals in high poverty school settings, perceived training needs may vary based on school socioeconomic status. Thus, this study was designed to address the following research questions (RQs).

1. What was the student population served and setting in which K-5 paraprofessionals worked?
2. What PD trainings did paraprofessionals receive in elementary schools?
3. What were the training needs reported by paraprofessionals?
4. To what extent was perceived training needs for paraprofessionals related to their school's socioeconomic status (i.e., percent of students eligible for free or reduced lunch [FRL])? We hypothesized that paraprofessionals working in schools with more students receiving FRL would report greater need for PD than paraprofessionals working in schools with less students receiving FRL, as burnout and turnover is more prevalent in setting with higher rates of students receiving FRL (Carter et al., 2009).

2 | METHOD

2.1 | Participants

Participants for the study came from a larger randomized controlled trial (RCT; Reddy et al., in press). This study sample included 215 paraprofessionals serving 62 economically diverse elementary (K-5) classrooms in a state in the Northeast US. School economic status was classified using the percent of students receiving free and reduced lunch (FRL), with FRL ranging from 0.70% to 95.5% (M = 58.4%, SD = 31.6%).

The average paraprofessional age was 42.9 (SD = 13.8, range = 22–78), with the majority of the sample identifying as female (n = 189, 91.7%). Self-reported race/ethnicity included Black/African American (n = 73, 34.0%), White (n = 69, 32.1%), Hispanic/Latino (n = 38, 18.1%), multiple races/ethnicities (n = 10, 4.7%), Asian (n = 7, 3.3%), and other (n = 8, 3.8%). Additional participant demographic information can be found in Table 1.

2.2 | Procedures

All paraprofessionals volunteered to participate in either school year 2017–2018, 2018–2019, or 2019–2020. Participants from the larger RCT were consented in accordance with Institutional Review Board (IRB) procedures and were provided a baseline data collection packet that included the Paraprofessional Professional Development Needs (PD Needs) Survey and demographic questions. Data collection occurred in person via paper and pencil. Paraprofessionals completed the baseline surveys within 2 weeks from when it was provided. Completed surveys were picked up by project staff at the school building.

2.3 | Measures

2.3.1 | PD Needs Survey

The PD Needs survey (Reddy et al., 2017, 2018) includes eight items about the current role(s), six items about PD received, and one item about the need for training. All questions were multiple choice prompts with the option to select more than one answer.

Items related to role were based on the students served and the classroom setting. Student population questions asked participants about the number (options included 1, 2–4, 5–10, and more than 10) and grade level(s) (kindergarten to 12th grade) for students they supported, the number of these students who had Individualized Education Plans (IEPs; 1, 2–4, 5–10, and more than 10), and associated disability categories (options included all 13 school-aged disability categories listed in the Individuals with Disabilities Education Act of 2004 and social maladjustment, a state-specific category; IDEA, 2004). An additional item assessed the paraprofessionals' exposure to types of disruptive behaviors in the classroom. Response options included commonly seen disruptive behaviors of calling out of turn, leaving the assigned area, leaving the classroom, use of profanity, refusal to participate in classroom activities, refusal to follow directions, refusal to complete schoolwork, talking to peers, verbal aggression towards others, verbal aggression towards self, physical aggression towards others, and physical aggression towards self; “I don't know”; and the option to write in other disruptive behaviors. This item was not included for a subset of participants who received an earlier version of the survey in which it was excluded.

Setting questions focused on the number of classrooms in which paraprofessionals worked (i.e., one, two, three, four, five, or six classrooms and more than six classrooms), classroom type(s) (i.e., all general education, mostly general education, split between general education and special education, mostly special education, and all special education), and format of instruction paraprofessionals provided (i.e., only in groups, mostly in groups, split evenly

TABLE 1 Participant demographic data

	N	Percentage
Gender		
Female	189	91.7
Male	17	6.3
Not reported	9	–
Race/ethnicity		
Black/African American	73	34.0
White	69	32.1
Hispanic/Latino	38	18.1
More than one	10	4.7
Other	8	3.8
Asian	7	3.3
Not reported	9	–
Level of education		
Some college (no degree)	76	38.6
College or graduate degree	55	27.9
High school diploma	34	17.3
Associate's degree	32	16.2
Not reported	18	–
Years of experience		
<10	92	42.8
0–2	45	20.9
2–5	40	18.6
5–10	34	15.8
Not reported	4	–

between groups and one-on-one, mostly one-on-one, and only one-on-one). Paraprofessionals were asked to select one answer for all setting-specific questions.

Additional items focused on paraprofessionals' PD experiences. Items assessed the number of hours spent in PD over the past year related to various topic foci and specifically related to behavior management PD (response options included *none*, *one to two*, *three to six*, *seven to nine*, *10–15*, *more than 15*, and *not sure*. Response options for questions about types of training included *on-the-job training*, *in-service training*, *conference sessions*, *I have not received training*, and an open-ended write in option.

Paraprofessionals also answered additional questions regarding (1) the targets of the training (i.e., paraprofessionals, teachers, other school personnel) and (2) training received related specifically to specific aspects of behavior management. One question on PD need asked "*What topics would you like to receive training?"* Answer options included the same choices provided on the training received question and an open-ended "other" option. This item was not included for a subset of participants who received an earlier version of the survey in which it was excluded. Participants were able to select more than one answer choice for the targets, behavior-specific training, and training needs items.

2.4 | Data management and analysis

Mixed-methods analyses were used to address all research questions. The majority of the survey data were analyzed through the use of frequency counts, including all reported role data and most of the existing PD and training needs questions. Descriptive and inferential analyses (binomial tests of proportion and Pearson correlations) were used for additional analyses. For RQ1, binomial tests of proportion were used to determine the overrepresentation of participants working in specific classrooms (i.e., general education compared to special education) and with certain groups of students (i.e., students with autism compared to unidentified students). To address RQ4, Pearson correlations were used to determine the relationship between school economic status and reported degree of training need. Cohen's interpretation of effect size was used to analyze correlations, where magnitudes in the 0.00s were considered nonexistent, 0.10s and 0.20s were considered small, 0.30s and 0.40s were considered medium, 0.50s and 0.60s were considered large, 0.70s and 0.80s were considered very large, and 0.90s were considered nearly perfect (Cohen, 1992).

2.4.1 | Qualitative coding

Qualitative analyses were used to address open-ended questions. The Glasarian version of the Grounded Theory Method (GTM) was used for all qualitative coding (Glaser & Strauss, 1967; Urquhart, 2013). Data went through three rounds of coding based on the GTM principles outlined by Glaser (1992), including open, selective, and theoretical codes. Theoretical codes were used for analyses. Coding was completed by the first author and a graduate student research assistant, with 90.3% interrater agreement.

Open coding

Open codes were defined by reviewing the open-ended questions line by line. Open codes were the initial label attached to each "other" question. Open coding was the coders' first attempt to attach a theoretical label to the open-ended answers. Codes were defined as *behavior and not a behavior*, *training and not a training*, *training topic or not a training topic*, *training designed for paraprofessionals or not designed for paraprofessionals*, and *behavior management topic or not a behavior management topic*. The goal of open coding was to determine if further coding was necessary or if the open-ended answers were not related to the "other" question. Inter-rater agreement for open codes was found to be acceptable at 96.8%.

Selective coding

Open codes determined to be related to the initial topic area were further coded into selective codes. Selective codes were used to relate the open codes back to the core question asked by the "other" question. Selective codes for the disruptive behavior question were derived from categories of student behavior on the Behavior Observation of Students in Schools (BOSS; Shapiro, 1996), a direct student observation measure that captures student engagement and disruptive behaviors using interval and partial interval time sampling methods. The BOSS is a systematic observation tool that has consistently yielded high interobserver agreement (Volpe et al., 2005). Behavior coding was based on the Bronstein et al. (2020) behavioral coding scheme. Selective codes for the training-based "other" questions were defined through the initial coding sheet and a review of training topics frequently covered in education. Agreement for selective codes was found to be acceptable at 87.0%.

Theoretical coding

The final round of coding, theoretical coding, further defined the selective codes to match theoretical constructs. Agreement for theoretical coding was found to be acceptable at 87.0%.

3 | RESULTS

3.1 | RQ 1: Students supported and setting worked

RQ1 aimed to describe characteristics of the students served and the K-5 classroom settings by the paraprofessionals.

3.1.1 | Student information

Student special education classification

The number of students with whom paraprofessionals reported working ranged from one to more than 10, with most paraprofessionals reporting working with two to four students ($n = 73$; 36.1%). The number of paraprofessionals working with one student ($n = 45$; 22.3%), more than 10 students ($n = 44$; 21.8%), and 5–10 students ($n = 40$; 19.8%), were relatively consistent. Almost all paraprofessionals ($n = 187$; 97.4%) reported working with students who were receiving special education and related services. Students met criteria for all 13 school-aged disability categories outlined by the Individuals with Disabilities Education Act (IDEA, 2004) and social maladjustment, a state-recognized disability category. Few paraprofessionals ($n = 6$; 2.6%) reported working with students not receiving special education and related services (Table 1).

Student disruptive behaviors

A total of 108 (97.3%) paraprofessionals reported serving students who display multiple disruptive behaviors in the classroom. A small minority, three paraprofessionals (2.7%) reported serving students who only display one disruptive behavior (calling out $n = 1$, talking to peers $n = 2$).

Paraprofessionals reported observing all 12 disruptive behaviors and "other" disruptive behaviors. Inappropriate verbal behaviors were reported 41.5% of the time ($n = 274$). Calling out of turn was reported 96 times (14.5%), talking to peers was reported 90 times (13.6%), verbal aggression towards others was reported 52 times (7.87%), and verbal aggression towards self was reported 15 times (2.27%). Refusal behaviors were reported 34.5% of the time ($N = 228$). Refusal to follow directions was reported 83 times (12.6%), refusal to participate in classroom activities was reported 74 times (11.2%), and refusal to complete school work was reported 71 times (10.8%). Inappropriate physical behaviors were reported 21.5% of the time ($N = 142$). Leaving assigned area was the most reported inappropriate physical behavior at 69 reports (10.5%), followed by physical aggression towards others ($N = 42$, 6.36%), leaving the classroom ($N = 22$, 3.33%), and physical aggression towards self ($N = 12$, 1.81%). The remaining 1.52% of disruptive behaviors reported by paraprofessionals who address multiple disruptive behaviors fell in the *Other* category ($N = 10$).

An additional seven behaviors and six nonbehaviors were coded from open-ended answers. Of the behaviors, the majority were classified as inappropriate physical ($n = 4$, 57.1%) using the selective coding scheme, two (28.6%) were coded as inappropriate verbal, and one (14.3%) was identified as noncompliance. Theoretical coding identified 75% ($n = 3$) of the inappropriate physical behaviors as physical interference. The remaining inappropriate physical behavior ($n = 1$, 25%) was coded as physical aggression towards others. All inappropriate verbal behaviors were further coded as verbal interference ($n = 2$, 100%). Noncompliance ($n = 1$) remained coded as noncompliance through theoretical coding. Descriptive coding counts are included in the overall frequencies and percentages presented above; see Table 2.

3.1.2 | Classroom demographics

Participants reported working from one to more than six classrooms, across both general and special education, from prekindergarten to 12th grade and providing small group and one-on-one instruction (see Table 3). Out of 210 paraprofessionals, 81 reported working with multiple grades (38.6%). Paraprofessionals who did not report working

with multiple grade levels (*n* = 129, 61.4%), reported working in grades K-8. Kindergarten had the highest percentage of single-grade paraprofessionals (*n* = 39, 30.2%), followed by fifth grade (*n* = 21, 10.0%), fourth grade (*n* = 17, 8.10%), first grade (*n* = 16, 7.62%), third grade (*n* = 15, 7.14%), and second grade (*n* = 14, 6.67%). The lowest percentage of paraprofessionals working with one grade were those who reported serving middle school (6–8th grade) students (*n* = 7, 3.33%; 6th grade *n* = 3, 7th grade *n* = 1, 8th grade *n* = 3). Participants who reported working with multiple grade levels serve students between 2 and 13 different grades. For example, 44 paraprofessionals (21%) reported working in two classrooms including kindergarten and first grade and second and third grade. One paraprofessional reported working in all grades from kindergarten to 12th grade.

3.2 | RQ 2: PD received

3.2.1 | Hours of PD

Paraprofessionals reported receiving 1–2 h of professional development in the past year. Hours of PD ranged from zero to more than 15 h in the past 12 months. The highest number of paraprofessionals (*n* = 90, 43.7%) reported receiving zero hours of PD. A total of 33 (16.8%) paraprofessionals reported receiving 1–2 h of PD, 22 (11.2%) reported attending 3–6 h, 17 (8.67% attended between 7 and 9 h of PD, 15 (7.65%) reported attending 10–15 h of PD in the past 12 months, and 19 (9.69%) paraprofessionals attended more than 15 h of PD.

3.2.2 | Format of PD

Paraprofessionals reported attending zero to three different types of training. A total of 67 (24.5%) paraprofessionals reported not yet receiving training. Of those who attended training, the highest number of paraprofessionals

TABLE 2 Breakdown of student special education classification categories

Disability category	*N*	Percentage
Autism spectrum disorder	72	20.5
Specific learning disability	53	15.1
Disability not specified	52	14.8
Speech/language impairment	42	12.0
Emotional disturbance	33	9.40
Other health impairment	32	9.12
Intellectual disability	19	5.41
Multiple disabilities	18	5.13
Social maladjustment[a]	12	3.42
Hearing impairment	6	1.71
Orthopedic impairment	4	1.14
Traumatic brain Injury	3	0.85
Visual iImpairment, including blindness	3	0.85
Deaf-blindness	2	0.57

[a]Social maladjustment is a disability category recognized by the state guidelines.

TABLE 3 Classroom demographic information

	N	Percentage
Setting with students		
Only general education	75	36.95
Mostly general education	16	7.88
Split between general and special education	35	17.24
Mostly special education	27	13.30
All special education	50	24.63
Format with students		
Only in groups	4	1.98
Mostly in groups	60	29.70
Split evenly between groups and one-on-one	102	50.50
Mostly one-on-one	29	14.36
Only one-on-one	7	3.47
Number of classrooms		
1	137	65.56
2	34	16.27
3	16	7.66
4	7	3.35
5	6	2.87
6	5	2.39
More than 6	4	1.91
Number of students served		
1	45	22.28
2–4	73	36.14
5–10	40	19.80
More than 10	44	21.78
Number of students receiving special education		
0	6	3.11
1	51	26.24
2–4	72	37.31
5–10	46	23.83
More than 10	18	9.33

attended *Inservice Workshop Training* (*n* = 84, 30.7%), followed by *On-The-Job Training* (*n* = 71, 25.9%), *Other Types of Training* (*n* = 33, 12.0%), and *Conference Sessions* for PD (*n* = 19, 6.93%).

Open-ended questions (eight of the 12 other codes) were first coded to determine if they met criteria specified in the initial codebook. A total of three (37.5%) were coded using the initial coding scheme and added to the totals

listed above. The remaining five open-ended answers (62.5%) were unable to be classified using the initial coding scheme. These codes were identified as *Passive Restraint Training* (*n* = 3, 60%) and *General PD* (*n* = 2, 40%).

3.2.3 | Topics of PD

The number of training topics ranged from zero to six, with 26 (24.1%) paraprofessionals reported not receiving training and three (2.77%) paraprofessionals reported attending training in six topic areas. A total of 82 (76.6%) paraprofessionals reported receiving training in one or more topic areas. The majority (*n* = 57, 69.5%) of paraprofessionals who reported receiving training, reported having PD sessions covering more than one topic area.

Behavior trainings were reported as the most common topic of training (*n* = 73, 32.6%). Classroom behavior management (*n* = 38, 17.0%) was the most frequently identified area of PD training received, followed by managing individual behaviors (*n* = 35, 15.6%). Following behavior-based trainings, training on district policies was reported 31 times (13.8%), followed by social-emotional learning (*n* = 30, 13.4%), academic instruction-based training (*n* = 27, 12.1%), state department of education policies (*n* = 17, 7.57%), other topics (*n* = 6, 2.68%), training on educational technology (*n* = 5, 2.23%), educator evaluation systems (*n* = 5, 2.23%), and communicating with parents (*n* = 4, 1.79%).

An additional five topics were identified through qualitative coding. One qualitative code was identified as not a topic and removed from analyses. Additional topics identified include *Evidence-Based Practices* (i.e., mindfulness and cognitive-behavioral interventions; *n* = 2, 33.3%), and *Passive Restraint Training* (*n* = 3, 66.7%).

3.2.4 | Training tailored for paraprofessionals

The majority of paraprofessionals reported that the professional development they received was tailored for their role as a paraprofessional (*n* = 49, 61.3%). For the remaining 31 paraprofessionals (38.7%), the training they received was designed for other school staff. Paraprofessionals reported that training they attended was either designed for *All School Staff* (*n* = 15, 36.6%), *Multiple Staff Members* (*n* = 12, 29.3%), *Teachers* (*n* = 11, 26.8%), *School Support Personnel* (*n* = 2, 4.88%), or *Other Staff* (*n* = 1, 2.44%).

Paraprofessionals who attended training for multiple staff members reported attending training for between two (*n* = 7, 58.3%) and four (*n* = 2, 16.7%) school personnel roles. Training for *Teachers* and *All School Staff* was reported by three paraprofessionals (25.0%). Attending training designed for *Teachers*, *Special Education Faculty and Staff*, and *General Education Faculty and Staff* was reported by two paraprofessionals (16.7%). The remaining paraprofessionals who reported attending training for multiple school staff members were only reported by one (8.33%) paraprofessional.

Open-ended responses for training design included "other ways to assist the students with support" and "Mrs. O went over about classwork with your students." Both of the responses were not identified as answers that designated who the training was designed for and were not included in further analyses. However, the statement regarding Mrs. O can be interpreted as teacher-led training, but given the lack of clarity on this answer, it was not included for analyses.

3.2.5 | Behavior management specific PD

Amount of behavior management training

Paraprofessionals reported attending between zero (*n* = 56, 51.4%) and more than 15 (*n* = 2, 1.83%) hours of professional development designed to improve behavior management practices. Slightly more paraprofessionals

reported attending 2–5 h of behavior management professional development (n = 20, 18.3%) than 1–2 h of behavior management professional development (n = 18, 16.5%). A total of six (5.50%) paraprofessionals reported attending 6–9 h of professional development on behavior management strategies, followed by 7–9 h of behavior management training (n = 4, 3.67%), and 10–15 h of professional development (n = 3, 2.75%).

Format of behavior management training

A total of 61 paraprofessionals reported attending between one and three types of behavior management-specific training. The majority (N = 41, 67.2%) reported attending one type of behavior management professional development, with the highest number of paraprofessionals reporting attending an *In-Service* (N = 25, 38.5%) behavior management training. Other training types reported include *On-the-Job Training* (N = 13, 21.0%) and *Other* (N = 3, 4.84%).

A number of paraprofessionals reported attending *Multiple Types* (N = 20, 32.8%) of behavior management training. The highest number of paraprofessionals attending *Multiple Types* of behavior management training in the 12 months before survey completion reported attending *On-the-Job Training* and *Inservice Training* (N = 10, 47.6%). A total of five (23.8%) paraprofessionals reported attending *Inservice Training* and *Conference Sessions*, followed by paraprofessionals who reported receiving *On-the-Job Training* and *Conference Sessions* (N = 3, 14.3%).

There was one write-in response which stated "sug[g]stions at times of student defiance, such as immediate reward of positive reinforcement, working incentive for student to receive a goal." Theoretical coding identified this response as *Evidence-Based Practice*, specifically positive reinforcement training.

3.3 | RQ 3: PD needs

RQ3 focused on the training needs of the paraprofessionals. The majority (N = 91, 82.0%) of paraprofessionals in Cohorts 2 and 3 reported an additional need for training and 20 (18.0%) participants reported no need for additional training. The number of topics in which a training need was reported ranged from one to eight. The majority of paraprofessionals who reported an additional need for training (N = 74, 81.3%) reported a need for training in multiple topic areas.

Consistent with reports of current training, behavior-based training was reported as the largest need for PD (N = 155, 50.2%), with *Managing Student Behaviors* (N = 90, 29.1%) being reported the most, followed by *Classroom-Wide Behavior Management* (N = 65, 21.1%). Outside of behavior paraprofessionals reported needing additional PD in *Social-Emotional Learning* (N = 59, 19.1%), *Instruction*, (N = 45, 14.6%), *Educational Technology* (N = 13, 4.21%), *School District Policies, Procedures, and Initiatives* (N = 12, 3.88%), *Educator Evaluation Systems* (N = 8, 2.59%), *State DOE Policies, Procedures, and Initiatives* (N = 8, 2.59%), *Communicating With Parents* (N = 7, 2.27%), and *Other* (N = 2, .647%).

3.4 | RQ 4: Paraprofessional training needs and school economic status

Pearson point biserial correlations indicate that the relationship between school economic status measured by the percent of students receiving FRL and overall need for PD was not significant (r = −0.025; p = 0.801). Point biserial correlations found a significant negative correlation between percent FRL and need for training in behavior management strategies for an individual student (r = −0.247, p = 0.011) and need for training in educational technology (r = −0.288, p = 0.003). For both significant relationships, as percent FRL increased, need for training decreased. This is in contrast to the initial hypothesis.

4 | DISCUSSION

Paraprofessionals are prevalent in school systems; however, their experiences, professional development, and training needs are largely under researched and overlooked. The present study investigated paraprofessionals' classroom settings and student characteristics, professional development they received, and their perceived training needs. Further, we examined relations between paraprofessionals' school economic status and training needs of paraprofessionals in 62 elementary schools.

4.1 | Paraprofessionals students and classroom settings

4.1.1 | Students

Paraprofessionals reported supporting students who qualify for special education and related services under all IDEA (2004) school-aged disability categories, as well as a state-specific disability category of social maladjustment. The present study found that most paraprofessionals have supported students diagnosed with autism spectrum disorder. Paraprofessionals also reported working with a number of students with a specific learning disability, emotional disturbance, and other health impairment, supporting the idea that paraprofessionals often work with many vulnerable students across special education disability categories in schools. Students often require differing services and have different levels of need ranging in intensity from mild to severe, supporting the need for systematic training on evidence-based interventions in academic instruction and behavior management varying in strength.

In addition to students who receive special education, the majority of paraprofessionals reported working with students who displayed disruptive behaviors in the classroom. Our results support the previous literature stating that paraprofessionals spend the majority of the day engaging in behavior management (Fisher & Pleasants, 2012; Sobek, 2016; Walker et al., 2020). Although previous literature has found that paraprofessionals self-report moderate levels of knowledge in specific behavior management strategies (Wiggs et al., under review), the changing roles of paraprofessionals and the diverse behaviors students exhibit constitutes a need for comprehensive PD on evidence-based practices in behavior for adequate service delivery.

4.1.2 | Classroom settings

Many paraprofessionals reported working with students in multiple grades, but only one classroom setting. Since paraprofessionals often manage students with severe impairments, it is possible that the paraprofessionals in our sample could have worked in classrooms (e.g., classrooms for students with disabilities) which include students from multiple grades. In addition, given that timeline restrictions were not placed on this question, paraprofessionals may be reporting on the variability throughout their careers and roles, which is thought to be significant for the 43% of our sample who reported more than 10 years experience as a paraprofessional. Given that paraprofessionals often fill an area of need (i.e., working one-on-one with a student as outlined by their IEP), assignments may shift. In many cases, paraprofessionals experience transitions in their assignment either during one school year or over the course of their tenure, resulting in lack of clarity in understanding their roles in classrooms (Allen & Ashbaker, 2004). Furthermore, our results indicate that the majority of paraprofessionals in this study worked with students in multiple grade levels, possibly suggesting that as student needs shift so do paraprofessional roles. Scholars have asserted that paraprofessional roles are often not clear, particularly for those new to this position (Allen & Ashbaker, 2004; Giangreco et al., 2010; Mason et al., 2020). Thus, changing job demands and lack of role clarity of paraprofessionals may lead to higher rates of burnout, turnover, and job dissatisfaction in this population, which is

particularly important in traditionally underresourced communities where rates of trauma, burnout, turnover, and job dissatisfaction are already increased (e.g., Borman & Dowling, 2008; Boyd et al., 2012; Jacobs et al., 2017; Smith & Ingersoll, 2004).

The majority of our sample reported working primarily in either special education or general education classrooms. The recent push towards inclusive education has increased the percentage of time students with IEPs spend in the general education classroom (IDEA, 2004; Low, 2020). This may have impacted the amount of time paraprofessionals report working in special education classrooms. Over 200,000 students in the northeastern state where our sample was derived received special education services in 2019. Students with an emotional disturbance make up 3.17% of the special education population, and those with other health impairments (including ADD/ADHD) totaling 22.09%. It is important to note that of the over 203,000 students receiving special education services (ages 5–21), 103,488 of those students are receiving services in a general education classroom for more than 80% of their school day. Specifically, students with DBDs, including emotional disturbance and other health impairments, are more likely to spend 80% of their school day in the general education classroom, compared to other disabilities categories (i.e., autism, intellectual disabilities). Given the larger number of students with DBDs being serviced in general education settings, it is important for paraprofessionals working in general education classrooms to receive adequate training, including job-embedded coaching to support their students.

4.2 | PD received

On average, paraprofessionals reported receiving 1–2 h of professional development within a 1-year period. Consistent with previous research (see Carter et al., 2009; Dudek et al., 2018), our results indicate that most paraprofessionals reported receiving training in the form of a one-time workshop. This form of training fails to facilitate knowledge transfer and application to classroom settings (Yoon et al., 2007).

Overall, the results offer conflicting information regarding the extent to which paraprofessionals received training designed to meet their specific needs. Results indicated that 61% of training was reported to be tailored to the paraprofessional role; however, the majority of paraprofessionals reported additional training needs. Training topics varied across our sample, with 17% of paraprofessionals who reported receiving training in classroom behavior management and 16% received training in individual behavior management. Further 11% reported having had no training in the past year. When asked directly about behavior management-specific training, over half of the sample reported having no training related to behavior management in the past year. There appears to be a disconnect between paraprofessional responses regarding the existing training opportunities and reported need for training, consistent with a lack of understanding of what training is necessary to adequately engage in the paraprofessional role.

4.3 | Paraprofessional training need and school economic status

In this investigation, paraprofessionals employed in schools with lower percentages of students qualifying for FRL reported greater training needs for individual behavior management strategies and educational technology. The initial hypothesis, paraprofessionals working in areas of low economic status will report a higher need for training, was not supported by the results. Research has suggested that students in traditionally underresourced areas exhibit higher rates of disruptive behaviors (Evans & Cassells, 2014; Skiba et al., 2014; Thomas et al., 2006); however, paraprofessionals working in these environments may feel better equipped to address student disruptive behaviors due to their reported on-the-job training. Conversely, paraprofessionals working in higher resourced areas may not encounter student disruptive behaviors as often and consequently, may feel overwhelmed when addressing these behaviors in the classroom.

Further, paraprofessionals working in areas of higher economic status may experience less burnout and stay in the same roles longer. Improved clarity in the paraprofessional role could lead to a greater understanding of training needs. Thus, paraprofessionals working in areas of higher income could more adequately report the areas in which they need training. However, it is of note that our ratings were collected at the beginning of the school year. Mason et al. (2020) found that paraprofessionals tend to overestimate knowledge before beginning their work in the schools, which can lead to overestimating or underestimating training needs. Alternatively, our unsupported hypothesis regarding the relationship between economic need and greater need for training suggests that regardless of school systems' socioeconomic status, paraprofessionals' training need is largely commensurate with previous research (Wiggs et al., under review). Given the current study's results and that of previous research highlighting inadequate training of paraprofessionals (e.g., Biggs et al., 2019; Hall et al., 2010; Mason et al., 2018; Sobek, 2016), paraprofessionals likely require job-specific training regardless of the socioeconomic status of the schools in which they work.

4.4 | Limitations and future directions

The present investigation is not without limitations. First, the present sample was collected in one state and may not be reflective of paraprofessionals outside of this state. Further, 43% of the participants report more than 10 years in the role of paraprofessional. Given the high rates of burnout and turnover (Jacobs et al., 2017) in this population, our results may not be generalizable past the current sample. Moreover, the participants in the present study were identified from a larger RCT. Thus, these individuals may be more motivated to change and engage in additional behavior management training than paraprofessionals outside of the study.

Second, data for this study were collected at one time point, the beginning of the school year. Single timepoint ratings are not reflective of change over time and do not reflect training needs at the end of the school year, which may offer in hindsight a more accurate clarification and summation of the day-to-day tasks of the paraprofessional. Additional research is needed to further understand how paraprofessional training needs change over time and how these needs may change in response to changes in the nature of the role and paraprofessional assignment.

The third limitation centers around the collected data. The present investigation allows us to identify the students with and settings where paraprofessionals work, but actual job-related duties were not investigated. Further research is needed to better clarify the paraprofessional role to better target training towards the job-specific tasks of paraprofessionals. In addition, although data were collected on the types of trainings paraprofessionals attended, the actual content and quality of the trainings were not investigated. Future research should focus on the content and quality of trainings designed for paraprofessionals offered by the state DOE and individual school districts.

The fourth limitation centers on the data analysis used in this study. Specifically, frequency counts and descriptive data allow for a preliminary investigation, but more in-depth quantitative statistics are needed to better estimate the training needs of paraprofessionals. At present, we are not able to determine the cause for paraprofessional training needs. Future research should be designed in a way to allow for more in-depth analyses to determine why paraprofessionals report a need for training in certain foci and not others, which is assumed to be related to role clarity and job duties.

An additional limitation exists in regard to the scope of the present study. Previous research has identified level of education and years of experience as factors that have an effect on paraprofessionals' classroom performance (i.e., Carter et al., 2009; Wiggs et al., under review). Studies that examine the relations between paraprofessionals' level of education and years of experience on classroom support practices warrant further investigation. With stress and burnout common in the paraprofessional population (Garwood et al., 2017; Mason et al., 2020) understanding the factors that may influence paraprofessional job-related stress is important. Future research should focus on the type and number of students served, as well as the percentage of time (daily, weekly) paraprofessionals spend with individual students and its relation to paraprofessional stress.

4.5 | Implications for practice

Paraprofessionals work with a range of students in settings (i.e., special education and general education) throughout the school system. Given the diverse student populations and classrooms in which they work, professional development for paraprofessionals should be tailored to meet student needs. The results of the present study suggest the need for job-specific training addressing student behavior management. Existing PD for paraprofessionals lacks follow-up (Reddy et al., 2020), which is necessary to make sure interventions are being implemented as prescribed. Given the diverse populations of students whom paraprofessionals serve, PD for paraprofessionals should target a variety of topics and include follow-up measures to ensure adherence to protocol. Overall, paraprofessionals are providing interventions and serving a variety of students across grade-level, disability status, and need and are reporting an additional need for PD, particularly in the area of behavior management. Providing additional PD to meet the job-specific needs of paraprofessionals can improve both paraprofessional classroom practices and student outcomes, improving the educational experience for all involved.

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