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PEDAGOGY

Examining the Role Clarity, Ability, and Training Needs of Paraeducators Supporting Students With Disabilities in Physical Education Settings

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Abstract

Paraeducators are often utilized in physical education environments to assist instructors as well as students with disabilities; however, there is little research on the utilization of these professionals within this setting. This study explored paraeducators' perceived roles and competencies in physical education from the perspectives of both paraeducators and physical educators. This study was conducted with physical educators and paraeducators serving as participants and completing a content-validated survey on the various roles typically assumed by paraeducators when assisting in physical education classes. Data were analyzed via descriptive statistics and t tests, and differences between physical educators and paraeducators were identified. Results indicated these key findings: (1) There was a significant difference in the perception of role clarity of paraeducators between participant groups, (2) there was a significant difference in the perception of role ability of paraeducators between participant groups, and (3) there was not a significant difference between groups in terms of the training needs of paraeducators specific to physical education. Using the results of this study, physical educators and paraeducators can work together to

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provide the best learning environment possible within physical education for students with disabilities and within the working environment for both physical educators and paraeducators.

Paraeducators, also known as paraprofessionals, teacher aides, instructional aides, or instructional assistants, are considered a related service under the Individuals With Disabilities Education Improvement Act (2004) and play a valuable role in working alongside teachers to provide meaningful and appropriate learning experiences for students with and without disabilities (Carter et al., 2009; Giangreco & Broer, 2005). According to the U.S. Census Bureau's American Community Survey, over 760,000 paraeducators were employed in the K–12 public school setting, comprising just less than 40% of the total school workforce (National Education Association, 2019). Once used primarily to provide support for special education teachers in classrooms saved primarily for students with disabilities, paraeducators have a role and responsibilities that have extended to multiple general educational settings (Walsh & Jones, 2004). That is, initially the roles performed by paraeducators ranged from clerical work to personal support, such as feeding and toileting (Giangreco, Edelman, Boer, & Doyle, 2001); however, it is not uncommon for them to now spend significant time engaging in instructional tasks, such as delivering instruction, keeping attendance, and grading (French, 2001; Giangreco & Broer, 2005). As a result, concerns have been raised about paraeducators' preparation and use in roles typically reserved for trained teachers, along with the need for additional training (Carter et al., 2009). The resulting concern is that personnel with the least amount of training are asked to take on instructional tasks for students with the highest educational needs (Giangreco et al., 2010).

Paraeducators are asked to assist in physical education classes as needed (Davis et al., 2007; Haegele et al., 2019; Walsh & Jones, 2004). However, limited empirical evidence has suggested that paraeducators feel untrained for assisting in physical education, and their roles and responsibilities are often not clearly stated (Bryan et al., 2013; Maher, 2016; Piletic et al., 2005). For example, in a survey of 29 paraeducators who worked in physical education environments, Bolen and Thomas (1997) found that just 33% had received any formal physical education–specific training (i.e., presentations of

roles, in-service training). In addition, whereas 92% of a sample of paraeducators in the United States surveyed by Davis et al. (2007) reported a need for receiving training specific to physical education, just 16% received it. Because of a lack of training, there appears to be little consistency on the expectations of the roles and responsibilities of paraeducators within physical education settings (Bryan et al., 2013). As such, many paraeducators may not be equipped with the knowledge, skills, or experience to contribute effectively to students' learning in physical education classes (Maher, 2016).

Research examining the roles of paraeducators within physical education contexts has received increased attention over the past decade (Bolen & Thomas, 1997; Bryan et al., 2013; Davis et al., 2007; Haegele et al., 2019; Lieberman & Conroy, 2013; Maher, 2016). However, although research has begun to examine the roles that paraeducators are assigned within physical education contexts, little available research has examined the ability of paraeducators to perform those roles. This study examined the perceptions of both physical educators and paraeducators concerning the role of paraeducators in physical education environments. Tables 2 to 4 show the specific responsibilities surveyed for this study. Exploring both perspectives may help provide insight into potential differences in expectations and perceived abilities between these two professionals. Paraeducators have noted that these differences have led to role ambiguity (Bryan et al., 2013; Maher, 2016). In addition, gaining an understanding of paraeducators' perceived ability to perform roles may help identify areas of training needed for paraeducators to help support students with disabilities in this unique educational environment. We assert that it is critical to gain this understanding from various perspectives, including from the paraeducators' and physical educators' viewpoints. As such, areas of need may be more evident from one group than the other, and those that are commonly voiced may have greater meaning. Having this dual perspective into the interrelationship of perceived role clarity, ability, and training needs can theoretically influence the delivery of support and, ultimately, the student learning outcomes of students with disabilities in physical education environments. As such, this study explored the perceptions of both paraeducators and physical educators in regard to

paraeducators' roles and competencies in physical education. Three research questions guided this study:

1. What are the differences in frequency of the various roles assumed by the paraeducators in physical education from the perspectives of both paraeducators and physical educators?
2. What are the differences in perceived role ability between paraeducators and physical educators in fulfilling various responsibilities inherent to physical education contexts?
3. What are the differences in the perceived training needs of paraeducators in physical education from the perspectives of both paraeducators and physical educators?

Method

Participants

In total, 205 individuals—118 physical educators (57%) and 87 paraeducators (43%)—participated in this study. The physical educator group included 67 females (56.8%) and 51 males (43.2%) aged 23 to 66 years (M_{age} = 43). Years of educational experience in this group ranged from 1 year to 35 years ($M_{experience}$ = 19.2). The paraeducator group included 83 females (95%) and four males (5%) aged 24 to 67 years (M_{age}= 46). Years of educational experience within this group ranged from 1 year to 43 years ($M_{experience}$ = 26.5). Paraeducator gender distribution in this study is largely reflective of gender distribution of paraeducators nationwide according to U.S. Educator Paraeducator Workforce Statistics (National Education Association, 2019). Information regarding race was not collected from either participant group as part of this study.

Data Collection

Potential participants were invited to participate in this study by email through two organizations in the same Midwestern state, one for physical educators and one for paraeducators. The physical educator participants were emailed through an email list associated with a statewide health and physical education association. This organization distributed study information directly to each potential participant. The paraeducator group was recruited through a statewide special education directors and school psychologists agency. This agency works directly with 31 school districts within the state.

Study information was distributed through the administrative assistant of the agency to all members via email. Both organizations agreed to send four reminder emails, sent in 2-week increments. For both the physical educator group and the paraeducator group, those receiving emails were asked to share with colleagues who also worked within the state.

Data collection took place between August 2019 and October 2019. A cover letter in the email explained the purpose, methodology, inclusion criteria, projected time commitment, and incentive to participate in this questionnaire. As incentive, potential participants were notified that those who completed the online survey would be eligible to enter a drawing to win one of four $25 Amazon gift cards. To be eligible to participate, participants must have been employed within a school district as either a physical educator or a paraeducator and have at least 1 year of experience. The letter also assured potential participants that all responses were anonymous and confidential and that participation was voluntary. Those interested in participating were asked to click a link to proceed to an online consent form, and those who completed the consent form and agreed to participate were invited to advance to the online questionnaires. The survey was organized so that all recruitment participants, independent of the group to which they were associated (paraeducators or physical educators), initially began the same survey but then deviated to participant-specific questions based on the answer provided for Question 1, which concerned participant occupation. Surveys took approximately 10 min to complete and a total of four emails inviting them to take part in the study were sent to prospective participants. Ethics approval was granted by the University of Wisconsin–Platteville prior to distribution of recruitment emails, and each participant who entered the survey was first asked to provide consent to participate.

Survey Development

The survey instrument used in this study, which focused on physical educators' and paraeducators' perceptions of role clarity, role ability, and training needs in physical education, was constructed by Tim G. Swenson and Justin A. Haegele. The same 15 items were used across three subscales, and each item represented a role that paraeducators assume within the physical education context. Tables 2 to

4 show a list of the roles. The 15 roles were developed via a four-phase process. First, a battery of potential roles of paraeducators were generated by Swenson and Haegele. Potential roles were drawn from empirical studies conducted on paraeducators in special education (Nicholls, 2017) and physical education (Davis et al., 2007) and from a practitioner manual by Lieberman and Houston-Wilson (2018). Second, the constructed items were sent to an expert panel of four professionals within the fields of adapted physical education and sport and exercise psychology. Revisions and deletions were made based on feedback from the expert panel, leaving 15 roles. Third, the scale was piloted by distribution to 10 general and adapted physical educators, and no additional changes were requested for content clarity or appropriateness. Finally, the remaining 15 roles were independently scrutinized by Swenson and Haegele and consensus was built on finalizing the scope and wording of the items. In total, each survey included 54 questions, including nine demographic questions. Prompts were worded differently for the two groups (i.e., physical educators and paraeducators). The demographic section for physical educators asked participants to report their age, gender, educational attainment, setting context in which they teach, and if paraeducators are involved in their classes. Demographic questions for the paraeducators asked participants to report their age, gender, educational background, years of experience, and training experiences specific to physical education. After the demographic questions, subsections were presented on role clarity, role ability, and training needs, which each utilized the same 15-item question stems.

Role Clarity

For the measurement of role clarity, paraeducators and physical educators were asked to rate the frequency of the role performed in physical education classes on a 4-point Likert scale of 1-*never* (not performed at all), 2-*occasionally* (performed during some class periods), 3-*usually* (performed during most class periods), or 4-*always* (performed during every class period). For the paraeducator group, the following question stem was used for each of the 15 roles: "How often within the physical education class (general or adapted) do I…." Physical educators were asked with the question stem "How often within physical education does a paraeducator…."

Role Ability

Perceived role ability within physical education environments was collected through questions focused on perceived confidence from the perspective of the paraeducators and competence level of the paraeducator from the perspective of the physical educators. This procedure was used to gain perspective of how confident paraeducators perceived they performed their roles in physical education classes and how well physical educators perceived paraeducators performed the same roles. For both groups, participants rated role ability on a 5-point Likert scale of 0-*not applicable*, 1-*not very confident/competent*, 2-*somewhat confident/competent*, 3-*confident/competent*, and 4-*very confident/competent*. For paraeducators, the question stem was "How confident am I in my ability to…" and for physical educators, the question stem was "During physical education, how well does the paraeducator…."

Training Needs

Both participant groups were asked to choose from a 3-point categorical variable scale with the options of 3-*a lot*, 2-*a little*, or 1-*no informal training* to indicate the amount of formal training specific to physical education provided to paraeducators. Formal training was defined as any training conducted in the form of a conference, in-service training, or a presentation. The question stem for the paraeducator survey was "I have received formal training in physical education on how to…." The question stem for physical educators was "The typical paraeducator has received how much training on the following roles?"

Data Analysis

Two-sample independent *t* tests were conducted in the evaluation of the difference in the means between the two participant groups for each research variable (e.g., perceived role clarity, ability, and training needs). The *p* value used to determine the significance in difference was set at .05. This technique was used as it allowed for the examination of differences between group perspectives.

Results

Table 1 displays the composite scores regarding the descriptive measures related the measures of this study. Overall mean scores

Table 1
Composite Group Differences in Perceived Role Frequency, Ability, and Training Needs From the Perspectives of Physical Educators and Paraeducators

	Physical educators		Paraeducators				
Subscale	***M***	***SD***	***M***	***SD***	***df***	***t***	***p***
Frequency	2.2	.47	2.4	.54	203	2.76	.006*
Ability	2.5	.61	3.2	.49	184.99	9.29	.000*
Training needs	1.68	.44	1.75	.57	150.24	1.15	.253

*p = .05.

were 2.21 (SD = .47), 2.52 (SD = .61), and 1.68 (SD = .44) for the physical educator group and 2.42 (SD = .54), 3.3 (SD = .49), and 1.75 (SD = .57) for the paraeducator group for role clarity, role ability, and training need subsections, respectively. Results of the t tests indicated significant differences in group mean scores in role clarity (p = .006) and role ability (p = .000) between physical educators and paraeducators. However, results indicated no significance between the two groups for training needs (p = .253). Cohen's effect size suggests a small significance (d = .14) for the variable of training needs, a moderate significance for role frequency (d = .39), and a high practical significance (d = 1.27) for role ability. To account for the impact of the missing data, Little's MCAR (Missing Completely at Random) test was conducted within SPSS. Deletion of case by case for each analysis was executed during t tests of participant role in regard to each research variable (clarity, ability, and training needs).

Role Clarity

Further analyses were conducted for further understanding of differences within each subsection. Within the role clarity subsection, the role in which both groups perceived that paraeducators performed most frequently was ensuring students are safe when participating in activities (M = 3.30, SD = .87 for physical educators; M = 3.76, SD = .83 for paraeducators). Similarly, both groups rated the roles of escorting students to and from the gymnasium

(M = 2.96, SD = .93 for physical educators; M = 3.01, SD = 1.06 for paraeducators) and providing prompting for students with disabilities (M = 2.69, SD = .82 for physical educators; M = 3.13, SD = .94 for paraeducators) as frequently performed. The roles with the lowest mean score between groups, thus indicating the most ambiguity of performance by paraeducators, were sharing potential IEP (Individualized Education Plan) ideas for students with disabilities with the physical educator (M = 1.65, SD = .77), assisting with assessments of students physical skills during physical education (M = 1.60, SD = .72), and assisting the physical educator with adapting activities for students with disabilities (M = 1.24, SD = .54).

Overall, results indicated a significant group mean difference in the scores of perceived role clarity for seven of the 15 roles identified between the paraeducator group (M = 2.2, SD = .47) and the physical educator group (M = 2.4, SD = .54), p = .006. Table 2 presents differences in roles between groups. It should also be noted that paraeducators' scores were higher than those of physical educators for 13 of the 15 roles, with the role of assisting students only with disabilities scoring higher within the physical educator group (2.62 vs. 2.46). The overall results indicated a significant difference (p = .006) in physical educators' and paraeducators' perceptions of the clarity of the roles utilized by paraeducators in physical education environments.

Role Ability

Overall, results indicated a significant difference in all 15 roles studied. Paraeducators' ratings of their perceived ability to perform each role were consistently higher than that of the physical educators, providing evidence of a disconnect in the perception of role ability between these two groups. In terms of how paraeducators rated their own competence level in performance of the roles, escorting students to and from the gymnasium received the highest overall score (M = 3.4, SD = .75). This was followed by the roles of ensuring students are safe when participating in activities (M = 3.14, SD = .82) and assisting only with students with disabilities (M = 3.00, SD = .71). Similarly, physical educators expressed that paraeducators perform the roles of escorting students to and from the gymnasium (M = 3.40, SD = .75), ensuring students are safe when participating in activities (M = 3.14, SD = .82), and assisting only with students

Table 2
Means, Standard Deviations, and p Values of Role Clarity of Paraeducators in Physical Education Environments

	Physical educators $n = 118$		Paraeducators $n = 87$		
Role	***M***	***SD***	***M***	***SD***	***p***
Escorting students to and from gym	2.96[a]	.93	3.01[a]	1.06	.485
Provide 1-on-1 instruction	2.57	.83	2.90	1.00	.011*
Assist PE instructor with planning	1.24[b]	.53	1.30[b]	.61	.454
Providing prompting (*physical, verbal, visual*)	2.69[a]	.82	3.13[a]	.94	.001*
Providing demonstrations	2.24	.77	2.51	.97	.023*
Assist with adapting	1.93	.85	2.33	1.04	.003*
Providing IEP ideas	1.65[b]	.77	1.80[b]	.87	.197
Charting behaviors	2.04	.88	2.18	1.13	.317
Assisting with assessment of skills	1.60[b]	.72	1.59[b]	.83	.889
Assist only with students with disabilities	2.62	.89	2.46	1.10	.249
Assist students without disabilities	1.99	.76	2.28	.89	.011*
Ensure students are safe	3.30[a]	.87	3.67[a]	.83	.002*
Contribute ideas for all students	1.79	.81	2.03	.96	.049*
Implement behavior management techniques	2.53	.80	2.69	1.01	.214
Discussion with PE teachers prior to class	2.00	.87	2.14	.95	.245
Overall role frequency	2.2	.47	2.4	.54	.006*

[a] Roles with top 3 highest means per group. [b] Roles with top 3 lowest mean per group.

*$p = .05$.

with disabilities (M = 3.00, SD = .71) with the highest competence. Results showed that physical educators perceived that paraeducators performed with the least amount of competence the skills of assisting the physical educator with planning (M = 1.60, SD = .82), sharing potential IEP ideas for students with disabilities with the physical educator (M = 1.90, SD = .87), and assisting with assessment of students' physical skills (M = 1.90, SD = .87)

Training Needs

Results of this subsection indicated training needs of both physical educators and paraeducators assisting within physical education environments to be a need through the perceptions of both study participant groups. The average mean, on a 3-point scale, was 1.75 for paraeducators and 1.68 for physical educators. The average score for training needs displayed a range of 1.98 to 1.26 for the physical educator group and 2.2 to 1.27 for the paraeducator group. Both groups rated the lowest the role of assisting the physical educator with planning. The area of training needs also revealed that both groups differed on how much training needs to be provided to paraeducators, with physical educators having a higher mean in three of the 15 roles (i.e., escorting students to and from the gymnasium, assisting only students with disabilities, and ensuring students participate safely in activities). Results from this subsection differ from other areas of the study in that paraeducators' scores in role frequency and ability were higher for each role than those of the physical educators.

Discussion

This study explored paraeducators' perceived roles and competencies in physical education from the perspectives of both paraeducators and physical educators. Research has suggested that paraeducators have an ambiguous understanding of the specific roles they should assume during physical education (Bryan et al., 2013; Davis et al., 2007). This ambiguity may arise from many factors, such as a lack of preparation of physical educators to work with paraeducators or inconsistency of expectations between paraeducators and physical educators within physical education environments (Bryan et al., 2013; Maher, 2016). The findings of this study support this sentiment, as significant differences were found between physical educators and paraeducators in their perceptions of paraeducators'

performance of various roles (frequency and ability) in the physical education environment. As such, it is clear that there are differences between what paraeducators believe they do and how well they do it, and what and how well physical educators believe paraeducators do them. This section contextualizes the results from this study within the three research questions.

Role Clarity

Findings from this study suggest that paraeducators tend to perceive that they perform most roles more often than physical educators believe they do, which casts a problematic disconnect regarding the clarity of the roles to be carried out in the physical education environment. The significance of this finding may lay with paraeducators' job satisfaction and the inextricable link it has to the need for role clarity (Jones & Bender, 1993). That is, the more precisely defined a job role and the associated role expectations are, the higher the level of job satisfaction and the fewer chances of emotional exhaustion and burnout (Giangreco, Edelman, & Broer, 2001; Shyman, 2010). As such, providing clear expectations of roles for paraeducators may not only reduce the chance of burnout but also improve the chance of job satisfaction. Unfortunately, in this study it appeared that there was a disconnect between between physical educators and paraeducators in their perceptions of paraeducators' roles in physical education contexts, which may contribute to less clearly understood roles and associate issues.

Among the roles discussed in this study, keeping students safe was the most frequently reported by both physical educators and paraeducators (see Table 2). The findings of this study support prior assertions that paraeducators are utilized often in physical education to keep students with disabilities safe (Bryan et al., 2013; Haegele et al., 2019), yet paraeducators perceived that they perform this role significantly more often than physical educators feel they do. Because of the dynamic environment that is inherent within physical education environments, physical safety of all students is of utmost importance (Bryan et al., 2013; Maher, 2016). However, if the primary role of the paraeducator is to only emphasize the safety of students with disabilities, there may be lost opportunities for paraeducators to contribute to the learning and improvement of students' skills across the psychomotor, cognitive, and affective domains. It is also

important to note that overprotection associated with paraeducators in physical education is possible, and not an ideal outcome, from the perspectives of those with disabilities (Haegele et al., 2019). Rather than focusing specifically on safety, properly utilized paraeducators can be more effective in terms of student engagement in physical education when serving a multitude of purposes, not just a singular one.

Role Ability

Another key finding from this study was the differences between physical educators' and paraeducators' perceptions regarding the paraeducators' ability to perform specific roles within physical education. Paraeducators consistently rated their ability to perform the 15 identified roles significantly higher than did the physical educators (see Table 3). This outcome aligns with research on paraeducators' preparedness for assisting in physical education (Davis et al., 2007; Pederson et al., 2014) in that paraeducators have felt prepared to perform assigned duties within physical education despite receiving little to no training. Despite the lack of training, paraeducators reported being assured in their performance of these roles as the average for this subscale was 3.3 compared to 2.52 from the physical educators (see Table 4). This finding was interesting given that research in special education contexts has indicated that paraeducators who had received minimal to no training had little understanding of how to perform certain roles, which led to feelings of disrespect (Giangreco, Edelman, & Broer, 2001). This phenomenon has several possible explanations. First, although paraeducators reported feeling confident in their abilities, they still may not have performed those tasks correctly. Thus, incorrect practice may justify the teachers' hesitance with the paraeducators' abilities. Second, the discrepancy in scores may be due to the physical educators' lack of training in evaluation of paraeducators within their classroom. The role of evaluating paraeducators typically is reserved for special educator teachers or directors of special education. Whether or not this is the case in physical education settings, if evaluation of paraeducators is going to be a role expected of physical educators, it would be beneficial for physical educators to received training specific to this process. Finally, it is feasible that paraeducators value the tasks that they perform in physical education as easier or simpler

Table 3
Means, Standard Deviations, and p Values of Role Ability of Paraeducators in Physical Education Environments

	Physical educators *n* = 104		Paraeducators *n* = 83		
Role	***M***	***SD***	***M***	***SD***	***p***
Escorting students to and from gym	3.40[a]	.75	3.88[a]	.33	< .001*
Provide 1-on-1 instruction	2.86	.78	3.52	.65	< .001*
Assist PE instructor with planning	1.60[b]	.82	2.63[b]	.90	< .001*
Providing prompting *(physical, verbal, visual)*	2.81	.84	3.66[a]	.52	< .001*
Providing demonstrations	2.37	.87	3.33	.78	< .001*
Assist with adapting	2.17	.82	3.10	.86	< .001*
Providing IEP ideas	1.98[b]	.87	2.69[b]	.97	< .001*
Charting behaviors	2.52	.92	3.33	.78	< .001*
Assisting with assessment of skills	2.10[b]	.93	2.90[b]	.90	< .001*
Assist only with students with disabilities	3.00[a]	.71	3.50	.55	< .001*
Assist students without disabilities	2.62	.89	3.40	.73	< .001*
Ensure students are safe	3.14[a]	.82	3.72[a]	.48	< .001*
Contribute ideas for all students	2.16	.92	3.02	.86	< .001*
Implement behavior management techniques	2.73	.80	3.23	.80	< .001*
Discussion with PE teachers prior to class	2.32	.89	3.20	.79	< .001*
Overall role ability	2.52	.61	3.3	.49	< .001*

[a] Roles with top 3 highest means per group. [b] Roles with top 3 lowest mean per group.

*$p = .05$.

Table 4
Means, Standard Deviations, and p Values of Training Needs of Paraeducators in Physical Education Environments

	Physical educators *n* = 97		Paraeducators *n* = 82		
Role	***M***	***SD***	***M***	***SD***	***p***
Escorting students to and from gym	1.77	.67	1.63	.78	.20
Provide 1-on-1 instruction	1.98[a]	.69	2.18[a]	.83	.08
Assist PE instructor with planning	1.26[b]	.49	1.27[b]	.52	.92
Providing prompting *(physical, verbal, visual)*	1.92	.69	2.22[a]	.79	.01*
Providing demonstrations	1.59	.63	1.78	.79	.07
Assist with adapting	1.51	.61	1.60	.70	.36
Providing IEP ideas	1.44	.63	1.61	.77	.11
Charting behaviors	1.67	.69	1.80	.79	.23
Assisting with assessment of skills	1.36[b]	.54	1.49[b]	.67	.16
Assist only with students with disabilities	2.13[a]	.70	2.04	.83	.46
Assist students without disabilities	1.53	.56	1.72	.76	.06
Ensure students are safe	2.02	.71	2.01	.87	.94
Contribute ideas for all students	1.39[b]	.51	1.51	.65	.13
Implement behavior management techniques	2.04[a]	.71	2.05[a]	.77	.95
Discussion with PE teachers prior to class	1.45	.65	1.46[b]	.65	.92
Overall training needs	1.68	.44	1.75	.57	.253

[a] Roles with top 3 highest means per group. [b] Roles with top 3 lowest mean per group.

*$p = .05$.

than in other settings and therefore view themselves as more capable of completing these tasks when considering them in comparison to tasks in other class settings.

Training Needs

The final key discovery from this study was findings associated with training needs, which are well aligned with those from prior studies (e.g., Davis et al., 2007). Of the three foci of this study (i.e., role clarity, role ability, and training needs), the lack of training stood out as an area of agreement between the two participant groups. That is, both the physical educator group and paraeducator group acknowledged a need for formal training specific to physical education for paraeducators. More specifically, the following four roles demonstrated the least amount of difference in the participant groups' perceptions of the need for paraeducator training: implementing behavior management techniques ($p = .95$), ensuring students are safe ($p = .94$), discussion with the physical educator prior to class ($p = .92$), and assisting the physical educator with planning ($p = .92$). These findings support research in special education contexts that has identified that roles of ensuring students are safe and implementing behavior management techniques stood out as areas in which paraeducators wanted more training and professional development (Riggs & Mueller, 2001). Specific to the physical education classroom, the roles of assisting the physical educator with planning and discussions with the physical educator prior to class are notable as the paraeducators indicated a need for more training in these roles than in the past (Davis et al., 2007).

Results pertaining to training needs can have important implications for the way in which students experience physical education. That is, research has shown that a lack of paraeducator training can lead to negative student experiences within physical education classrooms (Bryan et al., 2013, Haegele et al., 2019). These negative experiences include, for example, being excluded during activities and experiencing unwelcome interactions from peers (Bryan et al., 2013). Additionally, students have stated specifically that paraeducators were routinely disengaged from physical education class as a result of unclear role expectations (Haegele et al., 2019). Providing training specific to physical education and insights into how to provide an appropriate level of student support can have

a positive effect on the level of participation by students with disabilities. Coupled with improving the experiences of students with disabilities in physical education environments, improved training may work to improve the role clarity and ability for paraeducators and thus address each of the concerns addressed in this research. Thus, training may have particular meaning for paraeducators, their students, and their understanding of paraeducators' role and ability to perform their roles in physical education environments.

Future Research Recommendations

A number of recommendations can be made to further expand research on paraeducator utilization in physical education environments based on this research. First, research should examine the effect of training in physical education contexts on paraeducators and the quality of physical education provided to students with disabilities. Research pertaining to paraeducators (Bryan et al., 2013) has discussed the need for further training and has hypothesized benefits, but little is known about the benefits that can be derived from this training or the frequency or magnitude necessary to garner those benefits. Research has shown that training and clear expectations of roles can help reduce the amount of stress and frustration on behalf of paraeducators in special education contexts (Shyman, 2010); therefore, studying the effects of training specific to the physical education environment is a logical next step.

Furthermore, understanding the effect of paraeducator training (or lack thereof) from the perspective of students with disabilities within physical education is an area of potential research. Research has shown it not uncommon for students with disabilities to be excluded from physical education as a result of safety concerns (Brehahl, 2013; Coates & Vickerman, 2008; Haegele & Kirk, 2018; Haegele & Sutherland, 2015). It is logical to suggest that by receiving more physical education–specific training, paraeducators can gain confidence in their ability to keep students safe while they engage in activities and therefore not need to exclude them from participation. Thus, research examining the effects of paraeducators with training specific to physical education and the overall experiences in physical education for students with disabilities may provide some interesting results.

Practical Recommendations

One clear practical recommendation derived from this study is that school districts should be encouraged to provide physical education–related training for any newly hired paraeducators as part of their onboarding process. This study has helped identify several specific roles that physical educators and paraeducators believe are critical for future training, which we would recommend adopting. Training could include, but not be limited to, the roles of assisting the physical educator with planning, assisting the physical educator with assessments, and communicating with the physical educator prior to class. Each of these roles was cited by the two groups in this study as having not only low levels of role clarity (see Table 2) but also training provided (see Table 4), yet these very roles have been suggested as best practices within practitioner-based journals (Lieberman & Houston-Wilson, 2018; Presidential Youth Fitness Program, 2013). In addition, research has indicated that the most prominent method of training that paraeducators receive is "on the job," meaning that it takes place in real time and after they have begun working directly with students (Carter et al., 2009). However, we recommend providing this training during the onboarding process because clear expectations of roles and how to perform them ahead of time could improve overall role clarity, which has been shown to have a positive effect on preventing emotional exhaustion among paraeducators (Shyman, 2010).

Limitations

Several limitations should be noted from this study. First, the results of this study are subject to response bias as it relied on individuals' self-reporting frequency, ability, and training needs in physical education environments. Second, study participants originated from only one state, and results should not be generalized to all paraeducators and physical educators working within physical education environments nationally or internationally. It is encouraged that future research examine a wider scope geographically (i.e., a national level) to improve the generalizability of future studies. Next, there was no working relationship between the paraeducator group and the physical educator group; therefore, specific assessment on paraeducators' performance limits the overall generalizability of the role

ability results. Finally, a significant amount of data from the physical educator group was missing within the role ability and training needs sections. Missing information may cause bias to the outcomes of this study (Kang, 2013).

Conclusion

Teacher shortages and federal legislation have led to an increase in the use of paraeducators with many educational environments, including physical education (Giangreco, Edelman, Broer, & Doyle, 2001). Though paraeducators are one service that helps provide access to physical education for many students with disabilities, there has been inconsistency regarding the expected role and responsibilities they are to assume in this specific classroom, which has led to role confusion and at times emotional exhaustion (Shyman, 2010). Moreover, training specific to the physical education environment for paraeducators is short in supply but high in demand (Bolen & Thomas, 1997; Davis et al., 2007; Maher, 2016; Haegele et al., 2019).

Paraeducators and physical educators demonstrated significant differences in the paraeducators' frequency and ability to perform various roles in the context of physical education environments. However, both groups agreed that paraeducators receive little training specific to assisting students with disabilities in physical education. Providing training unique to physical education to paraeducators may help improve the learning environment for students with disabilities, improve the clarity of the roles assigned to the paraeducator, and enhance not only the ability in performing physical education–specific roles but also possibly the job satisfaction of the paraeducator when assisting in physical education.

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