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PEDAGOGY

Early Career Differences in PETE for Master's and Doctoral Institutions

Thomas Trendowski

Abstract

The purpose of this study was to investigate the organizational differences between Doctorate-granting Universities (DUs) and Master's Colleges and Universities (MCUs) that contribute to the achievement of promotion for an assistant professor. Twenty-five full professors at doctoral-granting/master's-level institutions in Physical Education Teacher Education were interviewed. Methodological rigor was applied through the lens of Miles and Huberman's (1994) four-stage process for data analysis with corresponding transcriptions. Curriculum vitae were also collected to aid in triangulation. Career preparedness and initial supports with the primary role responsibility were vastly different between DUs and MCUs, leading to documented episodes of reality shock at MCUs. The study indicates vastly different levels of preparedness for individuals who start their careers at DUs rather than MCUs. The significance of this research indicates that DU's may consider training doctoral candidates by providing a more robust set of experiences conducive to faculty roles.

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Introduction

Upon entry into the field of academia, professors may have profound and different experiences. For some, it has been noted that role expectations and career readiness were a simple transference from doctoral education (Trendowski & Woods, 2021). Others have suggested a wide discrepancy between preparation and daily job functions (Casey & Fletcher, 2012). Ward and colleagues (2011) have discussed the dichotomy in research and explained that graduate students do not have diverse enough experiences. Despite these problems, recent research in physical education teacher education (PETE) offers a complicated picture of preparation and role expectations (McLoughlin et al., 2019; Richards et al., 2022). The significance of such instances may often have professors finding difficulty balancing roles, feeling isolated, or even experiencing burnout (McLoughlin et al., 2019; Richards et al., 2021).

Research in Physical Education Teacher Education

Over the past 10 years, research on PETE professors has increased (McLoughlin et al., 2019; Richards et al., 2022; Trendowski, 2023). When entering the field, initial supports have not exclusively contrasted between Master's Colleges and Universities (MCUs) and Doctorate-granting Universities (DUs) in PETE. However, the current literature does discuss career preparation and initial entry. McLoughlin and colleagues (2019) conducted a longitudinal study and found robust advisor-advisee relationships, along with a supportive department culture during an individual's first faculty position, were important socializing agents. The new faculty member would often maintain a working relationship with the advisor. Richards and colleagues (2022) found that pre-tenure faculty professors face many challenges, including balancing roles, the perception by the university that their subject matters, and feelings of isolation. Trendowski and Woods (2021) studied 14 doctoral institution professors and explored the promotion process to full professor. This was categorized as scholarship being the most salient role while teaching and service were considered secondary.

Theory Occupational Socialization

Historically, socialization theory contains three categories: acculturation, professional socialization, and organizational socialization (Pennington, 2021). The theory was initially utilized as a framework to explain why pre-service and in-service PE teachers reason, behave, and act in their profession (Pennington, 2021). Nevertheless, as research has advanced in recent years, the process has further been developed to explain socialization in the PETE professoriate.

Brunsdon and Curtner-Smith explain that the socialization model includes "acculturation (i.e., the influence of biography before teacher education), professional socialization (i.e., the influence of PETE), organizational socialization (i.e., the influence of the school culture), secondary professional socialization (i.e., the influence of advanced degrees), and secondary organizational socialization)" (2023, p. 923). Richards and Fletcher (2018) contend that within professional socialization, there are two components: anticipatory socialization and graduate education. According to Pennington (2021), this phase was initially there to explore the recruitment of post-bachelorettes into the field of PE. Anticipatory socialization in academia refers to socialization experiences "leading up to one's decision to enter doctoral education" (Richards & Fletcher, 2018, p. 99). During this time, potential doctoral candidates may spend time working as physical educators (Russell et al., 2016). Merrem and Curtner-Smith (2018) explain that anticipatory socialization experiences can greatly influence the meaning or philosophy when starting as PETE faculty. The latter part of professional socialization is graduate education (Richards & Fletcher, 2020). During the doctoral experience, individuals develop the "knowledge, skills, and experience" to become teacher educators (Russell et al., 2018, p. 440). Professional organizations are paramount for facilitating positive interactions via networking, knowledge gained, and experience presenting (Richards et al., 2016). The secondary professional socialization phase is typically seen as more impactful than the initial professional socialization phase (Merrum & Curtner-Smith, 2018).

Secondary organizational socialization (Russell et al., 2016), sometimes referred to as faculty socialization (McLoughlin et al., 2019) is the socialization experiences of faculty members in academia. There are three levels: junior, mid-career, and senior phases

(McLoughlin et al., 2019), which pose unique challenges as they can be synonymous with assistant, associate, and full professor (Trendowski & Woods, 2021). However, there can be a delay in promotion, and thus, these categories do not always align (Trendowski, 2023). Challenges faced typically revolve around academic roles, including research, teaching, and scholarship (Trendowski & Woods, 2021). The saliency of each depends on which phase of the professor's career they are in (Trendowski & Woods, 2021).

As a pre-tenured faculty (assistant professor), there are many challenges, such as publishing and creating a line of inquiry, teaching new classes, advising students, and participating in service (Trendowski & Woods, 2021). Research notes that pre-tenured faculty are bombarded with commitments such as high teaching loads, grant funding, and research (Gregory & Burbage, 2017). As a result of these pressures, there seems to be an awareness by the administration to lessen the load of committee work on new faculty (Trendowski & Woods, 2021). Socializing factors, such as experiences, mentors, and expectations, influence where an individual's time and energy are spent (Trendowski & Woods, 2021).

The dialectical nature of socialization is important, especially early in the career, as individuals can resist and utilize personal agency in the workforce. An individual's job can be carried out with little tension when personal and institutional expectations align (Graber et al., 2020). However, under misaligned role expectations, pre-tenured faculty members could encounter role conflict (Richards & Levesque-Bristol, 2016). When there is role conflict, faculty members may abandon other roles, withdraw into one role, or try to balance personal and institutional obligations (Burke-Smalley et al., 2017). With mismanagement, burnout and early career termination may transpire (Padilla & Thompson, 2016).

Rationale and Purpose

There has been a recent interest in PETE pre-tenured faculty studies (McLoughlin et al., 2019; Richards et al., 2021). Such research has discussed many challenges and tribulations pre-tenure faculty face. Faculty members generally reported feeling underprepared for their teaching roles due to a lack of training and limited opportunities for Ph.D. experience (Bowman et al., 2017; Casey & Fletcher, 2012). Casey and Fletcher (2012) noted the lack of specific educational

courses and less relevant educational experience within doctoral programs. This situation can be exacerbated when young faculty members work in less research-oriented environments compared to doctoral institutions. This study aimed to investigate the organizational differences between Doctorate-granting Universities (DUs) and Master's Colleges and Universities (MCUs) that contribute to the achievement of promotion for an assistant professor. In recent years, there has not been a targeted study differentiating between MCUs' and DUs' initial experiences in which success of promotion was attained. Pennington (2021) mentions that only a few such studies exist in PETE that are reflective of individuals entering the field from individuals who were successfully promoted.

Methods

Identification of Participants

After permission was granted from the Institutional Review Board, the primary researcher sent an initial inquiry concerning participation in the study. The email included information outlining the study's purpose and an attached consent form. If the recipient declined to be interviewed, communication ended. Participants were requested to participate based on a PETE program database in the United States that comprises more than 600 schools and 250 full professors. All individuals with the rank of full professor employed by doctoral/master-level institutions were considered. Participants were given pseudonyms for anonymity.

In total, 25 participants (nine females and 16 males) from a variety of Carnegie research classifications were selected. This categorization (Carnegie) is based on quantifiable variables, such as research productivity, number of doctoral degrees conferred, size of the program, variety of programs offered, degree type, and number of students enrolled (Indiana University, n.d). In the end, 15 participants were employed at doctoral institutions (DUs), and 10 were employed at Master's institutions (MCUs) during their assistant professorship. Of note, only Todd and Marge moved classifications within assistant professorships (e.g., moving from a master's to a doctoral level). However, in both cases, they were classified as the latter placement, as Todd only spent one year at the institution while Marge spent three. Notably, there were only three cases in which participants moveclas-

Table 1
Description of Participants

Participant	Carnegie Classification at Pre-Tenure Institution(s)	Carnegie Classification at Current Institution	Years at Assistant Professor Rank	Years at Full Professor Rank	Geographic Region
Abraham	R2	R2	6	15	West
Barney	R1/R2	R1	8	7	Midwest
Bart	R1	R1	2	13	South
Carl	M1	M1	3	4	Northeast
Charles	R1	M1	5	2	West
Edna	D/PU	D/PU	6	2	Northeast
Eleanor	M2	M2	5	4	Northeast
Elizabeth	M1	M1	6	10	Northeast
Helen	R1	R1	5	6	South
Homer	R1	R1	6	12	South
Kent	R1/R1	R2	7	21	Midwest
Lenny	M1	M1	5	23	West
Lisa	R1/R1	R2	6	4	West
Maggie	M1	M1	11	6	South
Marge	BA/M1	M1	7	8	Northeast
Martin	M1	M1	7	20	South
Moe	M1	M1	6	13	South
Nelson	R1	R2	6	12	Midwest
Patty	R1	R1	8	5	Midwest
Ralph	M1/M1	M1	4	11	Northeast
Selma	R1	R2	6	3	Midwest
Seymour	R2	R2	3	6	Northeast
Todd	M1/R2	R1	6	15	Midwest
Tony	M1	M2	6	5	Northeast
William	R1	R1	7	24	Midwest
Mean			5.88	10.48	

sification strata. The two previously mentioned, and Charles, went from a DI to an MI after promotion. The demographic data related to the participants are listed in Table 1.

Interviews

Interviews were contingent upon participants' preferences and were conducted in person, by phone, or via Skype. Each lasted approximately 60 to 90 minutes, and questions sought to gain perceptions of context, supports offered at each institution, and barriers participants encountered. Semi-structured, open-ended interviews utilized a formal guide for consistency. That is, the primary research

had time for informal, participant-driven discussion and utilized the interview questions to direct the conversation and keep interviews consistent (Patton, 2015). This method allowed the participants to steer the conversation about impactful experiences before the interviewer prompted the individual since the constructivist paradigm was utilized (Corbin & Strauss, 2015). The interview questions were developed about occupational socialization theory (Richards et al., 2022; Russell et al., 2016). Example questions were, "What challenges did you face early in your career?" and "How did you manage the roles of teaching service and scholarship?" There were no instances of a participant declining a question or stopping the interview.

Curriculum Vitae

To aid triangulation, participants emailed current copies of their Curriculum Vitae (CVs) to the primary researcher before the interview process began. This step served to enhance the quality of the interview questions. For example, if it applied to the participant in their pre-tenure experience, one such question asked, "Can you explain three supports at (institution participant first worked) and compare them to (second university the participant worked)?" This dynamic form of data collection allowed the researcher to objectively analyze participants' pre-tenure careers and seek to discover which types of resources were more impactful. Moreover, CVs supported the information elicited during the interviews and offered additional insights into various faculty roles (Richards et al., 2022). The researcher was able to identify significant events, including press coverage, significant awards, speeches, publications, and invited appearances that were not present on the vitae in some instances.

Data Analysis and Trustworthiness

In an ongoing effort to collect data, prospective participants were contacted every two weeks until it was determined that data saturation was met through analysis of major themes. Before analysis, member checking was utilized to verify the validity of the transcripts. Miles and Huberman's (1994) four-stage process of data generation, data reduction, data display, and data and theme analysis for analyzing transcripts. As data was being analyzed, participants were placed in stratified fields based on the Carnegie Classification systems (Trendowski & Woods, 2021). After the data was coded, a secondary

researcher who volunteered was utilized as a debriefer for all analyses (McLaughlin et al., 2019). Deductive reasoning was used as the primary research that examined the data via occupational socialization theory. Inductive elements were also considered as the primary researcher and peer debriefer consciously sought information that could challenge or advance the theory. CVs were also examined for congruencies and linked to corresponding interview questions (Patton, 2015). Individual profiles were utilized to augment the CVs or help with gaps. Finally, CVs were coded and linked for significant themes. There were no instructions on the CV content, but it was noted to the participants that they had to be updated before sending (Dodds, 2005; Trendowski, 2023).

Multiple techniques were used to confirm the findings, enhance credibility, and ensure trustworthiness. Triangulation of interviews, profiles, and CVs was utilized to collaborate themes and ensure the validity of information (Patton, 2015). Constant comparison with a volunteer researcher transpired for emerging themes, generation, and negative cases (Lincoln & Guba, 1985). A graduate assistant was utilized for an independent audit. In addition to member checking, this made sure the validity of transcripts via the assistant listening to six different audiotapes for 30 minutes and comparing them to the transcripts (Lincoln & Guba, 1985). The primary researcher also provided an audit trail, with specific methodological procedures, to an independent researcher to improve conformability (Lincoln & Guba, 1985). Once these methodological procedures were complete, the peer debriefer conferred findings and questioned any biases/assumptions postulated by the primary researcher.

Results

Returning to the theoretical framework of socialization and the dynamic influences of certain variables, results will now be presented through the lens of the following themes: (a) the influence of career preparation and (b) the influence of initial supports. The former will identify how participants were prepared to meet the demands of their jobs. The latter was the influence of roles and the support that ensued.

Influence of Career Preparation

The influence of career preparation from DUs allowed participants entering the field at DUs to flourish. These individuals found an easier time to transition into higher education compared to their counterparts initially employed at MCUs. In general, these individuals asserted that their doctoral preparation prepared them to meet initial duties as pre-tenure professors at DUs because they were equipped to conduct research, the primary role responsibility. In addition, participants employed at DUs identified no perceived barriers, while participants employed at MCUs described a lack of internal support during their early career years.

DU's Professional Preparation

Educators at DUs stated that they believed they were successful during their induction years because of the specific training within their doctoral programs. For example, Abraham explained, "I knew exactly what was up in front of me…Through coursework in my doctoral program, I was keenly aware of what it took to be [employed] at a research institution." Doctoral degree programs conveyed professional expectations directly through graduate school coursework and mentoring by faculty. Barney added, "I would argue all my socialization occurred in my doctoral program. I graduated pretty much socialized. I don't consider myself socialized through the profession." To that point, he believed he had already acquired all the necessary skills to be a quality researcher and had adequate knowledge of the field he anticipated joining.

Participants at DUs felt prepared as graduate training established high standards and expectations for conducting research. Helen articulated, "Well, coming out of my doctoral program, I always knew that those were the expectations… to research and write." William and many others espoused feelings that they were prepared to conduct research from the beginning. He stated, "The driving force behind [being successful]… I attribute this to my preparation at my doctoral school. I think I was very well-prepared in research methods and statistics and qualitative research." Selma stated that her doctoral program established lofty goals to ensure promotion would be achieved. To further validate these perceptions, CV data indicated that participants met the demands of research activity at

Table 2
Role Responsibilities DUs versus MCUs Assistant Professor Phase

	DUs	MCUs
Mean Publications per Year	2.18	1.21
Percentage of Data-Driven Publications	77%	27%
Mean Presentations per Year	3.42	2.10
Mean Number of Books Published as an Assistant Professor	0.90	0.14
Mean Credit Hours Taught per Year	15.29	25.03
Percentage of Participants Required to Compile Accreditation Reports	33%	80%

their institutions. During the assistant professor years, participants employed at DUs, on average, tallied 2.18 (*SD* = 1.19) manuscripts and 3.43 (*SD* = 1.84) presentations per year and wrote a total of 0.90 books (*SD* = 1.45). To distinguish the significance of scholarship, MI's expectations were vastly different and displayed in the CVs (excluding Lenny, who was an outlier) had 50 % fewer research-based manuscripts, tallied 1.21 (*SD* = 0.71) manuscripts and 2.10 (*SD* = 1.81) presentations per year, and wrote 0.14 (*SD* = 0.30) books. These statistics indicate significant disparities in expectations in scholarship (see Table 2).

Lack of Preparedness at MCUs

In contrast to early readiness experiences reported conducting research tasks, most participants employed at MCUs did not characterize their graduate training as significant for their career preparation. They did not feel equipped to teach large course loads or handle accreditation. Ralph was teaching four classes a semester and described grading, "I once gave an assignment due on the same day for all four classes, my weekend was spent being an ink jockey." For the most part, participants employed at MCUs were overwhelmed with their teaching loads, and this resulted in many documented cases of reality shock. Similar instances transpired among participants who were not familiar with processes such as accreditation. As Eleanor

explained when writing reports, "It was a nightmare, and I felt like a sheep thrown to the wolves."

Some participants carried responsibilities that their institutions considered to be more important than research. For example, Marge explained a similar feeling when talking about the complexities of classes and aligning to standards: "I just wish someone would have sat down with me during grad school and told me you need x, y, z." Part of their tenure at her school was aligning courses with best practices, and this task could be considered a scholarship. However, Marge, like many, felt unprepared when designing courses to align with appropriate methods and national accreditation standards. In total, the CVs and interviews of those employed at MCUs mentioned being required to formulate accreditation reports 80% of the time compared to a mere 33% of those participants employed at DUs (Table 2). In cases such as these, the combination of a lack of preparedness from doctoral training programs (specifically related to completing accreditation reports) and large teaching loads contributed to the cases of reality shock.

The Influence of Supports with Primary Role Responsibility

To begin with, these primary role responsibilities were scholarship at DUs and teaching at MCUs. Participants at DUs explained that some combination of reduced teaching loads, grants, and initial start-up packages helped facilitate their primary role. In contrast, almost all the participants at MCUs stated that there was no support for their primary role as teachers.

Early Resource Supports at Doctoral Institutions

DUs had many supports that facilitated their success. Bart categorized these as "more the exact opposite of barriers." In his eyes, it was "everything put in place for you to be as successful as you want to be." Most individuals at DUs did not have a sense of reality shock because of the environment. For example, Helen stated, "I just did what I needed to do. I didn't feel neglected. I didn't feel overwhelmed." For these participants, support came in a variety of forms, including a reduced teaching load, monetary start-up packages, and grants to support research. To that point, as a current department head, Abraham acknowledged the importance of having individuals

teach fewer classes. Participants mostly identified reduced teaching loads to aid scholarly productivity during the early portion of one's career. Lisa, for example, taught fewer classes in her first year and was provided money for research funding. She added,

> I got $2,000 every year that [I] was there to support my research, and then they had summer money, too. I think I got a $5,000 grant once. [School] had internal funding that we could apply for regularly, so I think I ended up with maybe $15,000 in funding that came from the institution.

Internal funding, such as the type provided to Lisa, was a way to pay for resources necessary for research and provide equipment for the department's PETE program. Most of the participants at DUs reported receiving internal grant funding within their first six years of employment, mainly in the form of summer research grants.

In addition, monetary compensation often accompanies the hiring process, and individuals may receive "start-up packages" for research supplies. For example, Barney was given a yearly budget and $100,000 to start a PE lab. He stated, "I was king of the hill—I could do anything I wanted there. [I was] incredibly fortunate." This start-up package facilitated research for Barney, and that, in turn, provided financing for resources, such as P.E. equipment and technology, for his students. Comparably, Bart, speaking about his administration, said, "You need money? We'll find a way to get it. You need release time? We'll find a way to work it out. If you need some flexibility in this [class], we'll do what we can. Doesn't always happen, but we'll put in an effort." Bart's quotation epitomizes the nature of support often provided within organizations to facilitate faculty success at DUs. Overall, the doctoral institutions provided ample support to enable pre-tenure professors to succeed, especially within their primary role responsibility related to research.

Lack of Support at Master's Institutions

At MCUs, the situations were starkly different than those described in the preceding content. Despite categorizing their colleagues and administration positively, individuals often perceived little institutional support to meet the demands of their primary role, teaching. Eleanor elaborated, "For the most part, I was on my own,

but the colleagues I developed friendships with helped." However, in her case, even the most basic tools were not provided when she started. Eleanor said, "I have to take you back to 1995 when I was an assistant professor. We had to petition the Dean in order to get a computer." Most individuals stated that there was limited funding, if any, for their programs. In fact, in the CVs of professors employed at MCUs, only two participants noted the receipt of internal grant funding not associated with travel. Moe explained, "You need to do the best with what you have. It is hard to justify spending money… have to make do." This lack of funding even impacted the students at some MCUs as access to equipment and technology became more problematic, potentially impacting specific undergraduate coursework.

Tony emphasized this lack of support: "You know it's funny, we are at a teaching institution, and we do not receive a reduced teaching load to help improve our teaching. At these larger schools, they give you help with research… Why not us?" Maggie and a few other participants laughed when they were asked if they ever received a reduced teaching load. Most professors decided as Maggie explained "suck it up" for the first few years. Lenny furthered this as he elucidated, "There I was, I was on my own… There was no release time. I walked in— Here are your classes. Here is your text. I would spend late hours in the evening preparing, trying to stay one day ahead of my students and classes. Brand new prep."

Maggie and many others spoke to the fact that they would spend an additional "4-5 hours a night" preparing for courses their first few years. Professors also alluded to other job responsibilities more often than DIs, such as advising, accreditation, grading, and supervising interns.

Participants employed at MCUs who reported coursework taught on their CVs/interviews averaged 25.03 (SD = 2.61) credit hours per year compared to 15.29 (SD = 3.03) credit hours for their counterparts at DUs (see Table 2). This did not take into account summer courses but did overloads. An overload is when courses are taught supplemental to the regular coursework, and professors are compensated for their time. Noteworthy, there tended to be a higher propensity for overloads in MCUs. To validate the point further, the disparity between the actual amounts of required credit hours of

teaching for pre-tenure professors would be further exacerbated if the release time typically granted to participants employed at DUs during their first year had been included in the above calculations.

To summarize, within PETE programs, beginning faculty at DUs perceived more support for their main role responsibility (research), while participants at MCUs felt a sense of reality shock as there was less support for teaching. Grading, advising, accreditation, and preparing for new classes took an extraordinary amount of time, leaving most individuals employed at MCUs feeling overwhelmed.

Discussion

Results from this study indicated that the influences of career preparation and early support may ease a beginning professor's transition into academia. However, organizational supports were largely dissimilar when comparing environments at DUs to those at MCUs. In many cases, this led to reality shock for individuals employed at MCUs as they sought to fulfill departmental demands that were, at times, vastly different than those addressed during their doctoral training. These results will now be examined through two categories: (a) the influence of preparation and (b) initial support for primary role responsibility.

The Influence of Preparation

This ability to find an equilibrium of roles is often hard for beginning faculty to achieve without developing strategies; in this case, many of the individuals employed initially at DUs had already honed these abilities through their doctoral programs. The literature has noted that moving from a doctoral candidate to a first-year faculty member can be stressful (McLoughlin et al., 2019). McLoughlin and colleagues (2019) found that many participants found it difficult to navigate their teaching load. In this study, it was found that many of the DUs had support within the school to help alleviate some of these initial challenges. McLoughlin (2019) noted that participants "expressed frustration that they were trained for research but were not able to meet personal research goals due to their heavy teaching load (p. 708)." While Barney, employed at a DI, felt prepared for his main role as a researcher, many other participants, including Moe, employed at an MI, felt overwhelmed with teaching responsibilities. Nevertheless, the participants at MCUs did not feel as prepared and

felt a sense of reality shock. This is similar to the classic Williamson (1993) study, in which participants had a similar experience. In that manuscript, one participant stated, "God, I am going to fall on my face" (p. 290).

The results highlight challenges that are associated with concerns raised by Ward (2016). He highlighted elements of a PETE educator's role, such as instructor (e.g., edTPA, program accreditation), to which they had not been exposed during doctoral education. This study reveals a mismatch between PhD student preparation and the availability of PETE positions at MCUs, suggesting the need to consider more comprehensive models of doctoral education that involve deliberate preparation for teacher education (Ward, 2016). Ward and colleagues (2011) suggested that doctoral programs are deficient in preparing PETE professionals. In the current study, new hires at DUs were perceived to be better equipped than those who began employment at MCUs because their doctoral preparation was more attuned to the expectations they encountered during occupational socialization. For some, the absence of this harmonious alignment resulted in the reality shock perceived by several participants at MCUs. McLaughlin and colleagues (2019) did find several instances where participants did not feel prepared for role responsibilities. To this end, Ward and colleagues (2011) contended that PETE doctoral students are not ready to meet all the potential duties of the profession. They stated that doctoral students are trained "too narrowly," and a broader perspective should be considered (Ward et al., 2011, p. 146). Engaging in an authentic and challenging pre-service program with diverse experiences can prevent reality shock in physical education and extend to PETE (Casey & Fletcher, 2012). Similarly, Casey and Fletcher (2012) conducted the study and postulated that doctoral programs should offer greater variability within their programs. Others, such as Mcloughlin and colleagues (2019), suggest shadowing current professionals to get a greater sense of job and role expectations. These opportunities would allow doctoral students to select different courses depending on their intended career trajectory instead of being trained with a "one-size-fits-all" approach (Casey & Fletcher, 2012, p. 377). Often, today's PETE programs train graduate students to become productive researchers but do not effectively incorporate instruction related to other major role responsibilities and

tasks such as advising, teaching, navigating accreditation processes, and serving on committees (Ward et al., 2011).

Initial Supports for Primary Role Responsibility

Once entering the profession, support for participants at DUs and MCUs was vastly different. Most individual's DUs were given grant opportunities, start-up packages, and reduced teaching loads. A reason for this may be found in other literature. Richards and colleagues (2022) noted that research may have higher prestige. Furthermore, this is exacerbated as he states that there is relatively limited and inconsistent accountability for quality teaching practices. As a result, some participants often tried to produce more scholarship than needed (Richards et al. 2022). Richards and colleagues suggested (2022) that this is in parallel with the teacher/coach conflict in physical education. Teachers/coaches often retreat into the coaching role because of personal aspirations and reward and accountability structures (Richards et al., 2019). It was more evident from this study that the professors were trying to meet the expectations bestowed upon them by the university. Very few of the professors published on pace with their counterparts at DUs. This would suggest the didactic approach to occupational socialization in which the university reflects its standards, and the professor must meet them to gain promotion (Trendowski & Woods, 2021). Narratives from MI's explained how their long hours were spent on their teaching rather than research. A more nuanced perspective would indicate socialization theory and dictate that individuals are socialized to meet their role expectations (Trendowski & Woods, 2021).

It is worth commenting that professors met their research expectations and were eventually promoted to the associate timeframe within the traditional timeframe of six years. This meant that despite MCUs feeling overwhelmed at first, they were able to meet expectations. As Mcloughlin and colleagues (2019) suggested those at "teaching-focused institutions expressed that they felt 'over prepared' for research as their research requirements were lower than they had anticipated as doctoral students" (p. 708). These research expectations have been noted as the paramount and most salient role in the promotion of individuals at DUs (Trendowski & Woods, 2021).

One rationale for the initial lack of support upon entering could be found in the literature. As Mclaughlin and colleagues (2019) note, "It seems as if faculty mentors assumed they would be good teachers, perhaps because many of them had prior teaching experience in P-12 school environments" (p. 708). However, as Casey and Fletcher (2012) explained, higher education and teaching physical education are dissimilar. Another explanation for the lack of support at MCUs could be that there tends to be less funding at MCUs (Desrochers & Hurlburt, 2016). Professors typically are not granted the initial monetary support as there is less money. This was shown in several commentary responses when participants laughed at a reduced teaching load.

Limitations and Future Studies

The results of this study indicate that PETE programs should train future practitioners to prepare for a wider variety of roles. Master's degree institutions should try to decrease stress and reality shock by providing support, such as reducing teaching loads, providing monetary funds, or other supplemental help. Academic leadership should consider access to colleagues with positive dispositions who are willing to provide mentorship is an important asset related to successful assimilation for beginning professors. More investigation is certainly warranted to clarify expectations/role responsibilities and provide strategies for professors to be able to successfully meet guidelines. Future inquiries should also focus on the various opportunities DUs present for students who want to work at MCUs.

Despite methodological rigor, several limitations inhibited this study. Testimonials regarding these participants' socialization experiences during their pre-tenure years may contain inaccuracies as interviews relied on recollection, and in some cases, extensive time had elapsed since this phase of their career. Furthermore, perceptions of socialization in this study have been reflected across the totality of participants' career**s**. As individuals near retirement, the reflection of early socialization experiences could be influenced by each participant's satisfaction with their current occupational status. If participants found their roles fulfilling**,** they may have reacted positively toward their initial experiences.

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PEDAGOGY

Parent Perceptions of Systemic Success in Physical Education: A Study of Advocacy in Action

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Abstract

*A district-wide PE program identified in previous studies as having achieved and sustained Systemic Success in Physical Education (SSPE) for over four decades requires advocacy practices of PE practitioners to assist in obtaining the support needed for program stability. This study aimed to examine parent perceptions of the program, and the advocacy strategies required of PE practitioners. A qualitative design consisting of 20 parents of fifth and sixth-grade students from five different schools in the district participated in in-depth semi-structured i*nterviews. *Six themes emerged from the inductive content analysis, providing valuable insight into the benefits of regular program advocacy and strategies that may be most beneficial in acquiring and sustaining the support needed for a resilient program. Four implications are made, including (1) building relationships, (2) keeping open lines of communication, (3) program transparency, and (4) the role of the PE District Coordinator.*

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Introduction

Change in education is a given! Educational change is driven by external forces (e.g., society, school boards, or lawmakers) and internal (e.g., administration and, primarily, the teachers). Incremental change is the norm but, for some, is too slow. External pressures result in increased *instability* and vulnerability to fundamental upheaval. Thus, change is often viewed as chaotic, the antithesis of stability. Some embrace change, others resist. Managing educational change is a challenge. However, planned or otherwise, change carries no guarantee of success (Cuban, 1992). As in chess, the victor is the one who moves the most powerful players available into the most advantageous position. While external agents of change are indeed formidable, an often overlooked and certainly underestimated group exerts powerful external influence on the fickle winds of change, *the parents*.

School boards wisely identify their community of parents as one group that is so influential it can change the intended and taught curricula (Cuban, 1992). Parents are a force to be reckoned with, and the advantage often goes to the side they choose to support. Fortunately, parents are not only powerful change agents, but they are also almost universally supportive of curricular offerings that are best for their children. They are willing to go to great lengths financially or by donating vast amounts of time and talent in support of their children's education. Although educators generally value family involvement, teachers report needing information on how to advocate and to form collaborative partnerships with families (Epstein, 2010).

The following couplet may provide a simple guide: *advocacy* creates *awareness,* and awareness *precedes* support (Pennington et al., 2023). If educational programs do not effectively reach out and create awareness of program needs, parents will not know when or how to get involved. According to Davies (1993), families in general, particularly those from diverse cultural, ethnic, and socioeconomic backgrounds, often wait for guidance from educators before interacting with the school. Mapp (2003) provides evidence that advocacy practices can foster and sustain respectful, caring, and meaningful relationships between parents and school staff. The ability of schools to connect with parents is driven by the common focus on the children's learning and growth. Mapp's study demonstrates how

effective parental advocacy practices can create a unified interest in achieving program goals, increase program support, and help break down barriers.

On the other hand, since parents can impact education policies and practices positively and negatively, Sheehy (2006) underscores that parent advocacy may contribute to program stability and sustainability during periods of vulnerability to fundamental change (e.g., cutting programs). Thus, regular monitoring of parent perceptions provides indicators of the effectiveness of advocacy efforts to increase parental support and assess the effectiveness of advocacy efforts.

Of course, advocating the benefits of a PE program presumes that the program is worthy of parental support. Not all PE programs are of equal quality, and some are not highly regarded. Nonetheless, Claxton et al. (2013) propose that parental involvement in, or support of a quality PE program can do much to change even negative preconceptions, stereotypes, and attitudes toward PE.

Systemic Success in Physical Education (SSPE)

When Siedentop and Lock (1997) labeled PE as a "systemic failure," researchers started focusing on studying those few large-scale PE programs that were successful and sustainable. Pennington et al. (2014) and Prusak et al. (2010) explored the history, making, and structures of the SSPE model that, for more than 40 years, seems to have gone against national trends, resulting in an insurmountable list of barriers to quality PE. Their work examined how a district systemically removed most of the barriers that had all but eliminated PE programs across the nation.

Prusak et al. (2010) used Cuban's (1992) curriculum change and stability framework to examine how this program has accomplished systemic success (i.e., district-wide and sustained over four decades). Circumscribing its four key components (see Prusak et al. for a full description of the SSPE model) is the notion of mutual accountability, which requires teachers to engage in a prescribed set of parental advocacy activities throughout the year.

Parental Advocacy in SSPE

This program services more than 42,000 children yearly with a mandated, quality PE curriculum. When district elementary physi-

cal educators are interviewed and subsequently hired, they commit to and are held accountable for advocacy practices by the district elementary physical education (EPE) coordinator. These practices for the academic school year consist of (a) keeping a positive phone call logbook with required weekly minimum entries, (b) creation and disbursement of four annual newsletters, (c) scheduling and conducting at least two parent PE demonstration/curriculum presentations, and (e) holding at least two evening track-and-field play days *in addition to* the (f) usual required biannual parent/teacher conferences (D. Pangrazi, personal communication, Sept. 28, 2018). These required practices are implemented to enhance student learning and progression and increase ongoing parent awareness, positive perceptions, and support toward PE. While these advocacy practices are laudable, it is unclear which program advocacy practices are most effective.

Although these or similar outreach or advocacy efforts have been in place for decades, their effects on parent perceptions are only anecdotally supported. What remains unclear is if and how they (a) have shaped parental perceptions and (b) have moved parents to action in support of the district PE program and its teachers. Therefore, the purpose of this qualitative study was to examine how the systemic, required advocacy practices used by district elementary physical educators has shaped parent perceptions and support of the SSPE program.

Methods

Participants and Setting

Participants were recruited using a purposeful sampling method to ensure equal representation of program awareness and district demographics. For example, to help assure exposure to the PE program and its parental advocacy efforts, 20 parents of fifth and sixth-grade students who have attended elementary school for three or more years in the district were invited to participate. Parents were recruited from five elementary schools deemed representative of all locations and socioeconomic levels across the district. In addition, the district EPE coordinator, the school EPE coordinators, the elementary PE teachers (at each of the five selected schools), and a Physical Education Teaching Education (PETE) professor from the

partner university agreed to participate. These interviews sought to understand and confirm the nature, routines, training, teacher perceptions, expectations, and oversight of the required advocacy practices used throughout the district.

The district in this study is in the Southwestern United States. Fifty-two schools serve about 42,000 kindergarten through sixth-grade students each year. District demographic information indicates ethnic identities as follows: 46% Hispanic, 41% Caucasian, 5% Native American, 4% African American, two percent report as multi-ethnic, and less than 1% Asian. Fifty-nine percent of students live in a single-family home while 22% live in a single-parent family. Seventy-two percent speak English as their primary language, and 67% qualify for free or reduced lunch.

Outdoor instructional/play areas, including large blacktops and grass fields, are common to each school. Indoors, a multipurpose room/gymnasium is equipped with floor markings, baskets, mats, climbing walls, and climbing ropes. Each location is provided with a wide variety of equipment, such as gymnastic mats, climbing ropes, jump ropes, a variety of balls, Frisbees, and hockey gear sufficient for all children to participate at once.

All elementary PE teachers use a mandated curriculum and are provided monthly in-service sessions to train them to do so. Approximately 80% of the teachers graduated from the nearby partnership university that trains them in this program. All are trained in and are expected to employ standard management and instructional practices. All are required to complete the aforementioned advocacy activities. The district coordinator, tasked with oversight of the fidelity and quality of the EPE program, performs regular assessments of compliance to district expectations.

Procedures

University IRB and district approval for this study were attained before data collection began. All participants received, signed, and returned a letter of informed consent. Selected parents were invited to participate in a 40-60-minute interview to share their perceptions of PE and their child's PE program. Of particular interest was how the district advocacy efforts had influenced their perceptions or urged them to take action in support of their child's PE program.

All parents/guardians that met the criteria were invited to participate. The first four parents to respond from each of the five selected schools participated in the study and were scheduled for an interview at their child's school. All interviews were audio-recorded and transcribed. All identifiers were removed to ensure anonymity, and pseudonyms were assigned once the transcriptions were complete.

Data Sources

The primary data source for this study was interviews with 20 parents, five elementary PE teachers from the five schools, the district PE coordinator, and a PETE faculty member from the local partnership university. Further, researcher field notes were collected and transcribed for analysis. District documents describing each advocacy activity and its expectations were also included in the data set.

Interviews

All interviews followed a semi-structured interview guide (Denzin & Lincoln, 2000) constructed from six relevant concepts, including Cuban's Curriculum Change and Stability Framework (1992); a pilot phone interview with the elementary PE district coordinator; the K-6 elementary PE district coordinators written expectations for annual observation and evaluation (this includes specific advocacy requirements of teachers); the critical role of parent perceptions to the future of PE in schools (Sheehy, 2006); Claxton et al. (2013) study of negative attitudes of PE and the need to promote its benefits to the community through encouragement of parent participation; and the three published studies that identified the SSPE model and its components (Pennington et al., 2014; Prusak et al., 2010; Prusak et al., 2014).

The questions included asking participants for examples of experiences that have broadly shaped their perceptions of PE and, more specifically, within the district. They were asked about any specific examples of information provided by the district or their child's PE teacher that may have influenced their perceptions of their child's PE.

Field Notes

Field notes consist of summaries of conversations along with emerging ideas, strategies, hunches, and insights obtained throughout the data collection and analysis process (Bogdan & Biklen, 1998). They served as a guide in discussions held with the peer debriefer and in formulating the themes that emerged from the data analysis.

Data Analysis

Data was content analyzed (Lincoln & Guba, 1985) to examine parent perceptions of the advocacy practices used by elementary physical educators. The constant comparative method (Lincoln & Guba, 1985), which has been described as a process of categorizing (Glasser & Strauss, 1967), was used to compare and contrast each unit of information with all other units of information to unite those with similar meaning and to separate those with different meanings (Glasser & Strauss, 1967; Patton, 1990). These information units were extrapolated from the raw data, consisting of a few words in a sentence to an extended paragraph. The initial themes that emerged containing similar units of information were cut and pasted into a computer file, printed out, and placed on large poster boards for further analysis. As a result of this process, themes were established, and subsequently, each theme was analyzed to identify common themes of greater generality (Lincoln & Guba, 1985).

Establishing Trustworthiness

Efforts to establish trustworthiness included triangulation by (a) collecting data from sources from differing perspectives (e.g., parents, teachers, district coordinator, and PETE professor), (b) using multiple researchers throughout the data collection and analysis, and (c) seeking out negative cases (Denzin & Lincoln, 2000). Further, to maintain methodological rigor and establish trustworthiness (Lincoln & Guba, 1985), this study employed additional strategies such as (a) member checking (source checking), (b) peer debriefing, and (c) an inquiry audit (Hanson & Newburg, 1992; Lincoln & Guba, 1985).

Researchers were surprised that all 20 parents interviewed shared a positive perception of the PE program. Consequently, it is important to share from the researcher's field notes that as the inter-

views were in process, this positive perception was strong, and the researchers noted it. As a result of this concern and to address the possibility of a perceived research bias, researchers sought to identify negative cases (Denzin & Lincoln, 2000) and purposefully probed further for any possible negative perceptions parents were willing to share. The only negative comments researchers could extract from parent interviews and member-checking processes included comments related to environmental factors such as high temperatures or the limited days the PE classes were offered to the students: they wanted more.

In the researcher's efforts to practice triangulation by interviewing those involved beyond the primary source of data (parents), a consistent theme emerged from the five PE teachers of the schools participating in the study is worthy of mention. These teachers were keenly aware of the required advocacy practices they were held accountable for by the district EPE coordinator, and they validated the parents' perceptions regarding the value and importance of such practices to their school programs. However, they also mentioned numerous times that such required practices take considerable time and effort. As one teacher shared, "at the end of a long day or week you think, oh I have to write those positive notes home or make those phone calls and it can feel like an added burden when you are already so tired." In seeking out negative cases, this was the most common complaint, but it came from the teacher's perspective rather than the parents. The teacher's perspective of these required advocacy practices warrants further exploration but was not the primary focus of this study.

Results and Discussion

According to Cuban (1992) and Siedentop and Locke (1997), an organization becomes vulnerable to substantial cataclysm usually caused by outside sources if it does not have a system to manage change. The key elements of this district's SSPE model identified by Prusak et al. (2010) were carefully shaped and refined over the years for the purpose of preserving its continued success through periods of incremental change and occasional fundamental upheaval. Cuban's assertion that parents can be, and often are, potent change agents, this district considers their parental advocacy efforts imperative to program stability and sustainability. This qualitative

study examined the parents' perceptions of the program, factors that influence those perceptions, and the advocacy practices applied by PE teachers in the district in order to shed light on the effectiveness of these practices.

Six major themes emerged regarding factors that influenced parent perceptions of the district's PE program and advocacy practices: (a) student enjoyment shapes positive parental opinions; (b) the teacher passion; (c) teacher involvement and presence outside of the PE class (d) teacher-to-parent communication and feedback; (e) program transparency: come see what your child is doing in PE; and (f) a well-structured and organized program. For the reader's convenience, the authors will present and discuss each theme in turn.

Theme 1: Student Enjoyment Shapes Positive Parental Opinions

Until parents develop a relationship with their child's teacher or acquire knowledge of their child's curriculum, most of their perceptions are tainted by their own experiences from childhood. However, according to parent feedback in this study, one of the first and largest factors that reshape current parent perceptions is the experiences and opinions their children share with them. One parent shared the following statement when discussing how her perceptions have changed:

> If you're going to talk about perceptions of PE before I had kids, it'll be from my own experience—which was if you spit on the ground, you had to do wall sits for fifteen minutes; and the PE teacher wore the tight little shorts; and it was rough. I wouldn't have described it as fun…now my kids love their PE experience.

Another parent explained how important a positive teacher-student relationship was to her. "Even though I didn't necessarily see the PE teacher very often, I knew my kids loved him, so then I liked him. Having that positive relationship with the students is probably number one."

These parents validate the following assumptions shared by one of the PE teachers in the district who stated, "I have parents that would probably say nice things about me that have never really seen

me teach, but I think their kids think positively about me." This PE teacher and others interviewed seem to have caught on to the importance of being a positive influence and creating a fun, enjoyable atmosphere for the children. The parents further revealed the effect that the quality relationships these teachers build with their students have on the opinions that students and parents have towards teachers and the PE program. Many of the parents also spoke about how much they allow their children's opinions to influence their perceptions of the PE program and the PE teacher. Therefore, creating a fun environment and developing positive relationships with the children is one indirect way teachers can incite program support.

Cuban (1992) and Sheehy (2006) underscore parents' influence on intended and taught curricula and can influence change in a program. Their perceptions of the field most often affect the role that parents play, whether those perceptions are accurate or not. Gaining the endorsement of a community through positive perceptions, such as the perceptions displayed by the parents in this study, contributes to curricular continuity. Because parents in this study identify their child's enjoyment of the program as an influential factor toward their perceptions, assessing for student satisfaction and developing gratifying lessons and activities are methods that will ultimately contribute to SSPE.

Theme 2: The Teachers' Passion

It may seem obvious, but when a teacher genuinely enjoys what they do, a positive atmosphere develops, affecting students' perceptions (Mitchell, 2013; Prusak et al., 2014). In turn, students share their enthusiasm with their parents.

Teacher-student interactions and relationships are highly affected by teacher passion, desire, or enthusiasm a teacher has toward teaching their subject. One teacher explained his decision to become a PE teacher as follows:

> I see what's going on with our kids…When I was growing up, as soon as I got home from school I was outside until Mom called me in. I dreaded that moment! You look in your neighborhoods now and it's not the same. This is why I do this—get kids moving, get kids active, get kids interested so that hopefully they can pick up something they enjoy and be

> active for the rest of their lives. That's the reason I'm doing this.

Many parents recognized the effects of the PE teachers' passion across the district. Here is an example of how parents felt about the impact that the PE teachers' passion for their job has on their children.

> I feel like the PE teachers not only want to do a good job, but also want to positively impact the lives of the students on campus. This is evident in the high fives and thumbs up they get as they walk through campus. If they weren't teaching good lessons and actively involving the kids, the children would not seek [to hang] out [with] the PE teachers!

All in all, parents seem to define a passionate teacher as one who genuinely cares about the students, builds meaningful relationships with the students and the parents, is enthusiastic and encouraging in the delivery of lessons and feedback, creates fun and engaging lessons that lead to student enjoyment, provides plenty of positive feedback to both the students and the parents, and goes above and beyond in their job, such as being involved and present outside the PE classes.

Theme 3: Teacher Involvement and Presence Outside of the PE Class

A striking observation was that almost every parent referred to the extra programs and events that the PE teachers conducted outside of their class time (a required advocacy activity). Interestingly, they associated these extracurricular activities and events with the PE program and additional evidence of teachers' passion for helping their students create a healthy and physically active lifestyle. Parents shared over 20 extracurricular activities (e.g., traditional field days to a mud run) organized by their child's PE teacher.

Notably, these extra-curricular activities involve the children *and* their families. Considering the extra work these outreach activities require, when asked why she organized so many activities, one teacher responded, "I feel like we are a hub, not just for this school but for this community. So, what we do is we try to get as many kids

and families active as possible." After one teacher spoke about the abundance of support he felt he received in return, he shared:

> I think that parents see that I put a lot in because I do programs after school and I have fitness nights and I do running-club, girls on the run…They see that I'm really trying not to just be a teacher and clock in and clock out and get out of here. They see that I really want to teach the kids healthy lifestyles and give them opportunities to explore and grow. It's appreciated, then they [the parents] do what can to support the program and activities.

It is almost as if teachers in this district are teaching parents how to be more involved and present in their children's lives through their actions and example. When parents see teachers going above and beyond the classroom to be a part of their children's lives, they are more apt to model that involvement by supporting and contributing to their children's education outside of the home.

Theme 4: Teacher-to-Parent Communication and Feedback

Acquiring constructive feedback is one of many benefits of creating open communication channels between a teacher and parents. However, most of these parents admitted that they seldom take the time to provide feedback to the PE or *any* teacher unless there is a problem. "You never provide feedback when it's good. Honestly, there's never been anything bad to say about the PE program. When things are going smoothly, no one ever says anything."

Nonetheless, parents always appreciate PE teachers' efforts to keep them informed, as illustrated in the following:

> I like that the teachers call me a lot, anytime there is something going on …'Can you participate in this?'. They let me know what my daughter is up to…its good things, always good things. I think just reaching out to the parents to make sure the parents are involved and know what's happening. I think that's really important.

Parents report that teachers' communications are largely negative reports of misbehavior or concerns about their children. However,

district PE advocacy practices are specifically designed to report the many good things their children do in PE. Consequently, parents find communications from PE teachers a relief and a pleasant surprise that makes a positive impression. One parent shared:

> It was a fun surprise to receive a phone call about how well my son was participating and what a pleasure it was to have him in class. At first. I didn't know that it was going to be positive. [The PE teacher] said, 'We are just calling to let you know that your son is doing an awesome job in PE and let mom know that.' I thought that was positive feedback. I think a lot of times we don't get that positive—we just receive the calls when it is not good. I think it is great that they actually take the time to call. It was brief, but it meant a lot to me. I told my son and I think it boosted his morale…that he is doing a great job.

Positive feedback should far outweigh the negative feedback given to the parents about their child. Constructive or negative feedback is always better accepted when a relationship has already been established using plenty of positive feedback. A PE teacher demonstrated her understanding of this approach in her explanation for why she likes to provide ample positive feedback early in the year:

> The key is to get parents on board starting with positive phone calls; because when you build a relationship with them and then you have an issue with that kid in class, you call them and they're on board 100% because they know you love their kid! We had a kid last year, and he was a superstar, but he got into some crazy trouble. All the sudden, he was on suspension. This is an amazing kid--*amazing* kid, and he messed up this one time. I called that mom, I said, 'Listen, I know he's going through tough times, but I want you to know that he's an amazing kid.' She starts crying on the phone saying, 'I needed that right now. I needed someone saying my kid's a good kid.' Every kid's gonna mess up, but if you build that relationship, you call, they're 100% behind you in whatever you need.

Every parent enjoys hearing good news about their child, and if a parent feels that a teacher enjoys having his/her child in the class, they are going to be more cooperative and supportive (Krasnow, 1990).

In addition to positive reports, open communications allow for invitations to attend or volunteer at PE-sponsored events. One parent said:

> I feel like their newsletter … about how parents can be involved, is good. I think parents don't know 'How can I be involved in my child's PE class?' … and so a contact … helps them feel like they are involved just by knowing what is going on. And like I said, those positive phone calls and positive emails…I think that is a huge thing because I think that parents want to know those things. It is important.

Although teachers use a variety of communication strategies, there are times when the type, timing, or delivery method of the information does not get through. One parent indicated that more consistent communication concerning the curriculum, approaching units or lessons in the PE class, or a curriculum map would be appreciated.

> I just think that if we got a little bit more of what is going on like in an email, saying 'this is what we're working on this week in PE' or 'this is the curriculum they are hitting every quarter, because I know they probably plan that out ahead of time.' Just letting us know. You notice your kids wanting to practice whatever it is they are learning because they want to do that at home now or do it more on their own instead of just in PE.

Although the preferred form of teacher-to-parent communication varies, the most preferred were email, then text messages, and lastly, phone calls. Obviously, with hundreds of students, it is a huge undertaking and requires a great deal of commitment on the teacher's part, but there is no denying the benefits. Teacher-to-parent communication has become a strong tool in affecting positive parent perceptions of the program.

Here Are a Few Examples of How to Communicate With Parents About PE

A teacher may include a small segment in the school's monthly newsletter informing parents what activities, lessons, or units are approaching. At the end of the unit, the teacher may follow up in a bulk email referring to the school newsletter segment, thanking parents for helping their children be prepared for the unit, sharing how the unit went, and asking parents for their feedback regarding the unit or inquiring what their children shared with them about the lessons. This may sound like a lot of work, but connecting in different ways is more feasible than trying to reach each parent individually through their preferred form of communication. One parent shared the following:

> Our PE teacher always adds some fun information in our [school] newsletter. It helps keep us informed on new and exciting things that she is working on for our kids. She also is a great communicator through email. I definitely feel like I am in good communication with her. Every effort that is made is appreciated. I feel like I can't say a negative thing about our PE program.

Robotic phone calls and email group lists are common at all schools. Asking parents to push the reply button and immediately share positive, neutral, or constructive feedback is a quick and easy way to solicit parent responses. Group text messaging is a very handy means to inform or remind parents about upcoming activities or events, assignments, and deadlines. Personal phone calls can be time-consuming but allow for a more personable touch, especially when addressing delicate issues. Whatever the method, teachers can reach more parents, make more connections, and increase the number of opportunities to shape the perceptions of their program.

Theme 5: Program Transparency: Come See What Your Child is Doing in PE

Parents tend to feel more positive about a welcoming, open, and inviting program. They experience a stronger sense of belonging and involvement in their children's educational experiences. However, even if a parent's participation or involvement does not increase,

merely having a simple awareness that the door is always open and parents are always welcome creates a sense of trust. For example, hosting several demonstration nights where parents observe and participate creates transparency in the curriculum their children experience. Here is a parent's account.

> [Starting] in kindergarten, they have a demonstration night…They tell you leave all your other kids at home. They want it to be very focused on just that child being able to show you what they do. They take us through how a PE class would go. The little kids are really excited to show us that they know, how to follow the directions, stuff like that. They demonstrated a few of their activities and then they had us do some activities with them—encouraging that active relationship with your kid, which I really liked. It was fun.

Another parent says:

> I think the fact that they're open and inviting to the parents incites the most participation because, if they weren't, even if I thought the PE program was great, if I wasn't invited to participate, I don't think I would see how great it ends up being for the kids and what the kids are experiencing. And so, because they invite the parents to come, you can watch them any time. And when you see what they're doing for them, it inspires more support.

Creating transparency demonstrates confidence in the program's benefits for their children and can even change past negative experiences. One teacher explained:

> It drives me nuts when someone's had a poor PE program experience and they throw out comments like, 'You guys don't do anything.' I'm like, 'Come watch! Come for one lesson and see what we do.' And if they do, it changes their opinion immediately. They're like, 'Holy cow, this is different!'

Whether the parents have the time or means to accept the invitations to observe, participate, or volunteer, if the invitation is always present and the doors are always open, parents often assume that, since there is nothing to hide, great things are happening. When

asked what advice parents would give a new PE teacher, a majority of parents related the following:

> Just making sure that parents know that [the teacher has an] open door communication, and [the parents] welcome to come participate in the class. I've definitely done that before. Rope climbing days, those are my favorite. I drop in on that. Just making sure that the PE teachers are very upfront…and say, 'Come check in on us anytime you want.'

Theme 6: Well-Structured, Organized Program

Teachers and school-and-district administrators make great efforts to showcase their EPE program precisely because of its quality, which is not lost on the parents. When asked why parents liked the program so much, one mother replied:

> The PE curriculum is differentiated between grades so instruction and participation can be tailored to specific developmental abilities. The PE teachers are wonderful and start every day with a warm-up activity that then transitions into a lesson, and then, they get to play a game that aligns with the curriculum. What a neat and fun way to keep kids excited and engaged in physical activity.

However, teachers revealed that the program organization is more than merely structured lesson plans. Thorough planning goes into every aspect of the program, from the yearly curriculum scope and sequence to the posted objective for each day's lessons. One teacher shared the following, "We've got our objective wall that has to be refreshed every week on what we're doing, and kids can say, 'That's what we're learning today.' After being asked how this district-wide PE program has changed her perception of PE in general, one parent shared the following:

> I have a greater appreciation for the purpose of PE and what they're trying to accomplish. I think before that; 'Oh, it's just for fun, it's just to get exercise.' But being more involved, I see how it's more about the overall emotional, mental, and

> physical growth…there's just a broader purpose now in the PE program.

Although they shared a variety of reasons as to why they believed the program was so successful, many parents were unaware that this success is consistent throughout the district. Unless they had experience in other schools within the district, parents assumed that their school was special or unique due to the extreme efforts of the PE teachers at their school. For example:

> This school has the most organized and well-run PE program I can imagine. I am incredibly pleased with our program. I feel like our school has wonderful PE teachers who offer a great variety of activities in PE. My children come home talking about what they learned or how far they got each week with their goals in PE. I feel like the PE program is a lot more involved then when I was in school.

In the minds of many parents, the PE teachers at *their* school are the heroes. However, every school attended by researchers found these similar hero-attributing characteristics in their teachers. Additionally, each class observed by the researchers was participating in the same highly organized four-part lessons. So, how were all these teachers on such similar pages simultaneously? Certainly, there had to be more to the story.

Although the PE teachers are recognizably highly trained, professional models of effective PE practitioners, prior research of the program and recent interviews with current PE practitioners in the district revealed that the true backbone of this successful and sustainable district PE model is the role of the Elementary PE District Coordinator. The current district coordinator has been working with the district for 20 years. Before her employment in this position, the previous Elementary PE District Coordinator retired after 26 years of service. Both believed strongly in teacher accountability. Both believed in the power of reaching out to the parents and have employed and refined advocacy practices to win the support of the parents. The current district coordinator holds every PE teacher accountable for keeping regular parent communication logs, attending monthly district-wide PE in-service meetings, maintaining a quality website, conducting at least two PE demonstration nights, keeping parents

informed through regularly distributed newsletters, and inviting parents to attend PE classes. All the PE teachers interviewed talked about the support *and* accountability from the district coordinator and the motivation it provides them. One of them stated, "[The PE district coordinator] is a huge advocate. [She] requires contact with parents on a weekly basis.: While another teacher shared an insightful comment about the role of the district coordinator with respect to accountability:

> I'm telling you, if [the PE teachers] don't do these things or they do it out of fear—they don't get it. Because if you do them, it just improves what you're doing as a PE teacher…You need to talk to parents. You're going to see huge improvement and help.

The parents' perceptions of a well-structured and organized program have much to do with the effective role of the district coordinator. All the busy work (i.e., curriculum development, lesson enhancements, assessment formation, equipment purchases, etc.) that usually prevents teachers from being more present and involved in building relationships and conducting extra-curricular activities or events that enrich their programs are taken care of by the PE district coordinator. With the support of the district coordinator in breaking down the barriers that usually impede the efforts of PE teachers in building and sustaining a strong program, PE teachers are free to focus on quality teaching, professional development, building strong relationships with parents, students, and community, and strengthening the perceptions and support of their program with effective advocacy practices.

Conclusion

Extending Cuban's (1992) notion of change and stability, previous examinations (Pennington et al., 2014; Prusak et al., 2010; Prusak et al., 2014) of this district-wide PE program have used the phrases "dynamic stability" and "stagnant stability." Stagnant stability hearkens back to Siedentop and Locke's (1997) assertion that the field of physical education was in a state of gridlock, unable to change (even for the better) due to a lack of collaboration between PETE, districts, schools, and the teachers. Conversely, the SSPE district has

achieved a state of dynamic stability in which changes are managed measuredly. Reaching out to parents is an intentional measure with two specific advocacy purposes and goals in mind: (a) to establish open communication, transparency, and goodwill and (b) to create parental support that may be called upon when needed. In short, the teachers advocate with the parents so that they might value PE and subsequently be more inclined to advocate for it.

This study highlights six advocacy activities, all of which are intended to (a) open lines of communication and transparency (e.g., phone call log, quarterly newsletters, open gym policy, and bi-annual parent-teacher conferences), (b) highlight student successes (e.g., positive reports to parents by phone or hand-written notes) and (c) highlight the quality of the program and its delivery by enthusiastic teachers (i.e., demonstration/curriculum presentations, track-and-field evenings and play days).

Few physical educators would disagree with the value of open communication, but too many shy away from engaging in the work it takes to make it happen. Indeed, despite all the positive outcomes that result from engaging in these advocacy practices, teachers admit that it is time-consuming and, at times, overwhelming. Nonetheless, they are quick to emphasize that the time and effort is well worth it. Strengthening teacher-student relationships, giving plentiful, positive feedback, and reporting good things to parents about their children is, after all, just good teaching. In turn, happy children relay positive experiences and feelings toward their PE teacher and class to their parents. Parents, some without ever meeting with the teacher, have positive perceptions and are inclined to support the program and teacher.

However, to win someone's heart, trust must be present. One of the best ways to gain the trust of others is through transparency. When it is evident to parents that teachers believe enough in their program to always make it open and available to the parents, and confident in their curriculum and teaching skills to invite them to come see what it contains, parents trust that the teachers have nothing to hide and assume good things are happening. Parents develop a sense of connectedness with teachers who create an open and trustful relationship (Davies, 1993). Taken even a step further, when teachers invite parents to participate in the lessons, events, and activities, par-

ents tend to acquire a sense of ownership. Parents, of their own accord, become loyal advocates of the program when teachers involve them in enhancing their children's health and well-being (Beddoes et al., 2021; Pennington et al., 2023).

One of the reasons PE teachers do not consistently engage in these types of activities is that they are dealing with the never-ending onslaught of barriers to their programs (large classes, low budgets, lack of administrative and collegial support, etc.) (Barroso et al., 2005; Jenkinson & Benson, 2010; Prusak et al., 2010). They do not have the time. As has been reported before in Prusak et al., (2010), many of these overwhelming responsibilities are largely nonexistent in the SSPE model due to the efforts of a diligent, full-time district PE coordinator. Besides relieving the PE teachers of common program barriers (Barroso et al., 2005; Jenkinson & Benson, 2010), the district PE coordinator also heightens teacher effectiveness and motivation by holding them accountable and providing them with the ongoing professional development and support needed to win the hearts of the community through consistent program advocacy practices. The work provided by the District PE Coordinator allows teachers (whom Prusak et al. (2010) believe is the most important part of the SSPE model) to focus on what should be their top priorities, teaching and advocacy.

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METHODOLOGY

Generalization of Parkour Skill Trials From Physical Education to Organized Recess in Elementary School

Shu Cheng

Abstract

To investigate the generalization of correct parkour skill trials from physical education to parkour recess in elementary school as a function of skill level. Seven 2nd grade classes with 147 children (55 girls) received a 10-lesson sport education parkour season. During the season, children could voluntarily participate in five parkour recess sessions during lunch recess. Children's voluntary participation in parkour recess was recorded and all skill trials in physical education and parkour recess were collected. There was no difference on voluntary participation in parkour recess between higher- (78%) and lower-skilled (77%) children. Higher-skilled children had higher percentages of correct skill trials than lower-skilled children in physical education (48% vs. 40%, p = .001) and parkour recess (42% vs. 32% p = .002). Most children voluntarily participated in parkour recess regardless of skill level. Parkour recess offered the opportunity to practice the skills learned in physical education.

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Introduction

Promoting a physically active lifestyle has been considered a key outcome in physical education curricula around the globe (Green, 2016; Sallis et al., 2012). Physical education provides children with an opportunity to develop physical competence and the necessary skills to participate in diverse physical activities (SHAPE America, 2015; WHO, 2022). The development of movement skills is therefore considered a prerequisite for participation in physical activities and can contribute to adopting a lifelong, physically active lifestyle (Rink, 2014; Stodden et al., 2008).

Hardman (2011) noted that the primary goal of a physical education curriculum is developing motor and sport-specific skills. Ennis (2011) echoes this point of view, arguing that being skillful is the cornerstone of lifelong engagement in physical activity. Performing skills correctly or successfully might serve as a reinforcer, increasing the likelihood that children will continue to engage in the activity (Stodden et al., 2008; Ulrich, 1987). Martinek et al. (2019) addressed that it is the important role of physical education programs in improving children's skills to foster enjoyable and ongoing sports participation outside of school. This is especially true for lower-skilled children, who are usually less active in physical education and recess (Erwin et al., 2012; Van der Mars, 2006). Therefore, it is reasonable to assume that if we want children to be able to participate in lifelong physical activity, some level of competence should be developed in physical education.

Transfer From Physical Education to Recess

Previous research has shown that a majority of elementary school children voluntarily participated in physical activities during recess that were tied to physical education content (i.e., parkour) (Cheng et al., 2022; Coolkens et al., 2018a). Cheng et al. (2022) found that 43% of children voluntarily participated in parkour during lunch recess. Coolkens et al. (2018a) found that 67% of higher-skilled, 55% of average-skilled, and 50% of lower-skilled children voluntarily participated in parkour during lunch recess. While in the beginning, fewer lower-skilled children participated, those differences faded over the course of the physical education lessons, leading the authors to conclude that perhaps lower-skilled children needed more time

to become components in the activity before participating in that activity during recess (Coolkens et al., 2018a). In a study by Iserbyt et al. (2022), a sport education fitness season in physical education with middle school students was connected to voluntary fitness sessions during recess. Similarly, they found higher participation for higher-skilled children only during the first of nine fitness recess sessions. The authors recommended future research to investigate some process measurement of children's successful performance in physical education (e.g., skill trials) since they assumed that children's experience in physical education affects their voluntary participation in that content during recess. Collectively, these studies investigated transfer using the science of behavior analysis, more specifically, the concept of generalization (Cooper et al., 2020). Stokes and Baer (1977) defined generalization as "the occurrence of relevant, learned behavior under different, non-training conditions (i.e., across subject, settings, people, behaviors, or time)." To foster generalization, in this study, the contexts of physical education and parkour recess we set up were identical: the same equipment was used, the equipment was arranged in the same way, and the same (i.e., physical education) teacher was present.

Physical education and recess are two key components of the Comprehensive School Physical Activity Program (CSPAP; SHAPE America, 2015), a framework that serves to support schools in increasing opportunities for children to engage in physical activity before, during, and after school days (van der Mars & Lorenz, 2019). One of the main goals of CSPAP is to maximize the application and practice of the skills learned in physical education (Carson & Webster, 2019; SHAPE America, 2015). Coolkens et al. (2018a) demonstrated that children spent a substantial amount of time performing skills learned in physical education during parkour recess regardless of skill level.

Skill Performance in Physical Education

Participating in an activity during or outside of physical education requires a certain level of skillfulness, and when that participation is successful, it might lead to higher levels of engagement in the activity (Rink, 2014; Stodden et al., 2008). Lund (1990) and Ward (1993) indicated that the number of responses (i.e., skill trials) is an important variable in explaining skill performance in physical

education. Previous work on students' motor skill performance in physical education found that high-skilled students performed more correct or successful skill trials in physical education units (e.g., volleyball, soccer, fitness, handball) (Graham, 1987; Hastie et al., 2011; Son, 1989). To further examine students' skill performance in physical education, Iserbyt and his colleagues (2015) assessed student skill performances in a high school badminton unit. Their findings showed that higher-skilled students performed more correct trials than average and lower-skilled students.

Research in physical education has demonstrated a relationship between skill trials and achievement (Ashy et al., 1988; Silverman, 1990; Silverman, 1985; Silverman et al., 1988). Ashy et al. (1988) and Silverman (1985) found that significant relationships existed between appropriate or correct skill trials and student achievement. However, the total number of skill trials students performed was not significantly related to student achievement (Ashy et al., 1988). In physical education, the amount of skill trials students performed within the time they engaged in skill practice rather than the time spent in an activity determined the quality of sport-specific skill learning (Lund, 1990; van der Mars, 2006). To precisely analyze skill trials children performed in physical education, the amount of skill trials per minute children achieved during practice time can be measured. The findings of Graham (1987) and Lund (1990) have shown that higher-skilled students had more skill trials per minute than lower-skilled students. In addition, the proportion of appropriate or correct skill trials students performed in physical education was observed to investigate student skill performance (Silverman, 1985; Ward et al., 2022). Ward et al. (2022) found that higher-skilled students had a significantly higher proportion of correct skill performance compared with lower-skilled students in the physical education badminton unit.

Skill Performance in Recess

Previous research has shown that lower-skilled children participated less in physical activity programs at school (Coolkens et al., 2018a; Drijvers et al., 2022). Coolkens et al. (2018a) found that lower-skilled children (50%) had lower participation in parkour recess compared to average-skilled (55%) and higher-skilled children (67%) in elementary schools. Drijvers et al. (2022) found

that higher-skilled students (77%) had higher participation in team physical activity recess programs (e.g., basketball, soccer) compared to average-skilled (71%) and lower-skilled students (63%) in secondary schools. It has been suggested that the lack of skill might hinder lower-skilled children's participation in physical activity programs in schools (Coolkens et al., 2018a; Drijvers et al., 2022). Therefore, investigating children's correct skill trials in a physical activity program during recess might provide insight into the quality of their motor engagement, which can affect their enjoyment of the activity and lead to sustained participation outside of the school. A skill trials study conducted by Cheng et al. (2023) showed that boys and girls had similar percentages of correct skill trials in physical education (44% vs. 45%) and parkour recess (36% vs. 42%) during parkour season. To our knowledge, previous research has not investigated children's correct skill trials as a function of skill level during recess.

Study Purpose

Physical education aims to help children learn generalizable skills to promote physical activity outside class time (McKenzie & Lounsbery, 2013). In this study, we extended previous work that ties physical education content with physical activity sessions during recess (Cheng et al., 2022; Coolkens et al., 2018a). We investigated the generalization of parkour skill trials (e.g., correct skill trials per minute, percentage of correct skill trials) from physical education to organized recess in elementary school. Children's voluntary participation in parkour recess and their correct skill trials during a parkour sports education season and parkour recess as a function of skill level were assessed. We tried to answer two research questions: (1) What is the effect of skill level on children's voluntary participation in parkour recess? and (2) What is the effect of skill level on children's correct skill trials in physical education and parkour recess? We hypothesized that (a) a higher proportion of higher skilled children would voluntarily participate in parkour recess, (b) higher skilled children would perform more correct skill trials and have a higher proportion of correct skill trials in both physical education and parkour recess sessions, (c) children would perform more correct skill trials per minute in physical education compared to parkour recess.

Methods

Participants

A total of 147 (55 girls) 2nd grade children and seven physical education teachers (two females) from seven different elementary schools participated in this study. The number of children per class ranged between 14 and 27, the average age of children was 8 years. Before the start of the study, the physical education teachers were asked to label all children as lower, average, or higher skilled based on previous physical education assessments and their experience in teaching these children. A detailed overview of participants can be found in Table 1. Teachers were invited to participate based on the following criteria: (a) willingness to participate in a professional development workshop with the duration of four hours to learn how to teach parkour using the sport education model; (b) willingness to teach a 10-lesson sport education parkour season in physical education; (c) willingness to organize ten 20 minutes' parkour recess sessions in the school's gymnasium during sport education seasons. The first author's university's social and societal ethics committee (G-2020-2133) approved this study. Informed consent was obtained from parents, teachers, and principals.

Research Settings

To investigate the effect of generalization of parkour skill trials from physical education to parkour recess in elementary school. All physical education teachers individually received 4 hours of professional development workshop on how to teach parkour using the sport education model (Siedentop, Hastie, and van der Mars, 2020). Seven physical education teachers each taught 10-lesson sports education parkour season to their 2nd grade children. Layne and Hastie's (2016) study showed that the sports education model is developmentally appropriate for 2nd grade children. Parkour is an individual motor activity where students move across various obstacles using running, jumping, and climbing (Coolkens et al., 2018b). Parkour was chosen because it is an individual sport, which could provide children with an equal opportunity to participate (Cheng et al., 2022; Coolkens et al., 2018a). The physical education teacher organized a 20-minute parkour recess every two lessons on a weekday

Table 1
Characteristics of Physical Education Teachers and Children

Participants	Study sample
Physical education teacher	7
Age	39 (26-60)
Female	2
Male	5
Years of teaching experience	14 (4-38)
Sex	
Girls	55
Boys	92
Skill level	
Lower skilled	32
Average skilled	61
Higher skilled	54
Class size	21 (14-27)

when no physical education class was scheduled. Parkour recess was implemented during children's traditional lunch recess; all children could voluntarily participate in parkour recess or choose to stay on the playground as they usually do. In total, five parkour recess sessions were organized in each school during the sport education parkour season. A member of the research team supervised all physical education and parkour recess sessions to check adherence to the study protocol, and no violations of the protocol were found.

Physical Education

Physical education in this study served as the training set; parkour as content was taught throughout a 10-lesson sports education season. The average duration of each physical education lesson was 45 minutes.

Sports education is a curriculum and instructional model designed to provide children with authentic experiences in physical

education classes (Siedentop et al., 2020). Within the sport education model, children fulfilled different roles (e.g., coach, referee, scorekeeper) in their team to make contributions, being competent, literate, and enthusiastic athletes (Siedentop et al., 2020). During the 10-lesson sport education parkour season, children were divided into three heterogeneous teams representing different countries. In addition, children within their teams served different roles (e.g., fitness coach, equipment manager), and the team's performance and scores were posted in the school's gym after each class. A culminating event was organized at the end of the sports education parkour season. Children performed a parkour freestyle routine in a festive setting with peers from other classes, teachers, and principals as the audience.

Parkour Recess

Recess settings in this study were scheduled after the children's lunch break. Children were allowed to participate in either traditional or parkour recess. During traditional recess, children can play on the playground using a variety of equipment provided by the school. Classroom teachers or school staff supervise and guarantee children's safety.

During traditional lunch recess every two physical education classes, physical education teachers organized parkour recess in the school's gym. A total of five 20-minute parkour recess sessions were organized and videotaped during the 10-lesson sport education parkour season. Parkour recess sessions were organized on the days without physical education class. Within the parkour recess, the context was identical to the previous physical education lessons in school gym. Physical education teachers supervised children's safety and did not teach new parkour skills. They prompted children to be physically active, for example: "You can play for five minutes. You can use all the equipment in the gym." These prompts were standardized for all teachers in the study.

Skill Level Determination

Based on previous motor skill assessments in physical education activities, this study categorized children's skill levels as lower-, average-, and higher-skilled by their physical education teachers. Physical education teachers must consider their students' skill levels

before deciding what to teach and how to teach (Hastie et al., 2011). Physical education teachers in this study taught their children other content for more than a year and should be able to judge their skill level well. In general, researchers in previous studies have left skill level determination to physical education teachers (Van der Mars, 2006), which has shown to be a valid method (Coolkens et al., 2018a; Fairclough & Stratton, 2005).

Dependent Variables

Voluntary Participation in Parkour Recess

The proportion of children's voluntary participation was calculated by dividing the number of participating children by the total number of children who had the opportunity to participate in parkour recess. To correctly calculate the proportion of participating children in parkour recess, the researchers recorded their names during each parkour recess session.

Parkour Skill Trials

A skill trial was defined as performing a discrete parkour movement (i.e., skill). In this study, fourteen parkour skills were taught by physical education teachers during physical education, such as a speedstep over the vault box. Each parkour skill's critical elements were based on the parkour handbook (Coolkens et al., 2018b). An overview of these skills and their critical elements are presented in the supplementary material. Skill trials were coded as correct if children's parkour skill performance met all critical elements. Skill trials were coded incorrectly when one of the critical elements was not demonstrated. Additionally, we also coded trials as incorrect if (1) children stopped the trial during their performance; (2) children sat down on the object during a skill trial; (3) the teacher stopped the performance of the skill trial; and (4) children fell during or following the skill trial. In addition, the amount of parkour skill trials per minute and the proportion of correct skill trials in both physical education and parkour recess sessions were collected and calculated by observers.

Observer Training and Reliability

Each physical education class and parkour recess session were videorecorded. Eighteen observers were trained before collecting

data from skill trials using event recording (Cooper et al., 2020) from the videos through seven steps. First, the observers learned the definitions of all parkour skill trials based on a parkour handbook (Coolkens et al., 2018). Second, the written test included 21-item multiple choices on definitions of parkour skills, and six-item multiple choices on coding conventions were given to check their understanding of coding parkour skills trials. Third, another 48-item multiple choice situation during video coding was given to assess their understanding of the parkour skill trial coding protocol. Observers were required to achieve a 100% score before moving to the next step in the second and third steps. Fourth, 14 videos related to 14 parkour skills were provided to help observers discriminate between successful and unsuccessful skill trials. Fifth, observers were asked to code two practice videos, and the interobserver agreement (IOA) on skill trials should be 100%; otherwise, the observers had to redo the fifth step until it was 100%. Sixth, researchers organized a workshop on 14 parkour skills to give observers an opportunity to experience all parkour skills, and their understanding of each parkour skill was further enhanced. Finally, observers had to code extra videos with a reliable coder, and their IOA was required to achieve at least 80% before becoming an independent observer. A total of 34% of all skill trials data was checked for IOA. To ensure the quality of the data, the reliability of observations is necessary and assessed by the degree to which two observers coded the same video agree on what they observed (Cooper et al., 2020; Son, 1989). The average of interobserver reliability for the skill trials was 82%, and 83% for successful skill trials.

Data Collection

Data collection was conducted from September 2020 to May 2021. Skill trial data was collected based on video observation in both physical education and parkour recess sessions using event recording, which is a reliable and validated method to systematically observe behaviors (Cooper et al., 2020). Parkour skill trials were recorded each time children attempted to perform in physical education and parkour recess. Studies have shown that discrete trials were easily observed and counted when measuring children's behaviors (i.e., activities) (Ashy et al., 1988).

In this study, we coded parkour skill trials during practice time in physical education lessons. Parkour skill trials were not collected in lesson 1 and lesson 10 since the exercises in lesson 1 contained balancing, stride steps, and precision jumps, which were not the parkour skills we focused on. Lesson 10 was a culminating event (e.g., a performance show) during which children demonstrated what they learned to peers, teachers, and principals. All dependent variables of parkour skill trials calculated the mean values from lesson 2 to lesson 9 and all five parkour recess sessions. Total skill trials were the total skill trials children performed during parkour skills practice time in each physical education lesson and parkour recess session. Skill trials per minute and correct skill trials per minute were calculated by the total parkour skill trials or correct parkour skill trials dividing the amount of parkour skill practice time. The percentage of correct or incorrect parkour skill trials was calculated by the total correct or incorrect skill trials by dividing the total skill trials and multiplying 100%.

In total, data from 147 children constituting seven classes from seven elementary schools. A total of 39 hours and 30 minutes of observations of physical education classes and 11 hours and 30 minutes of observations of parkour recess sessions in seven elementary schools were conducted in this study.

Data Analysis

All data were analyzed using the Statistical Package for the Social Science (SPSS, version 28, IBM, Armonk, New York). Chi-square tests were used to determine whether children's voluntary participation in each parkour recess was equal among lower-, average-, and higher-skilled children. Since seven different schools and teachers were involved in this study, the clustering effects of school and children were investigated for each dependent variable. The intraclass correlation coefficient (ICC) suggested clustering effects of school and children, so generalized linear mixed models were used to investigate the fixed effects of skill level and settings for dependent variables with random effects of school and children. The model's assumptions of normality and homogeneous variance were satisfied according to the residual effects. The significance level was set at $p < .05$, and effect sizes were reported using fixed effects estimates.

Results

Voluntary Participation in Parkour Recess

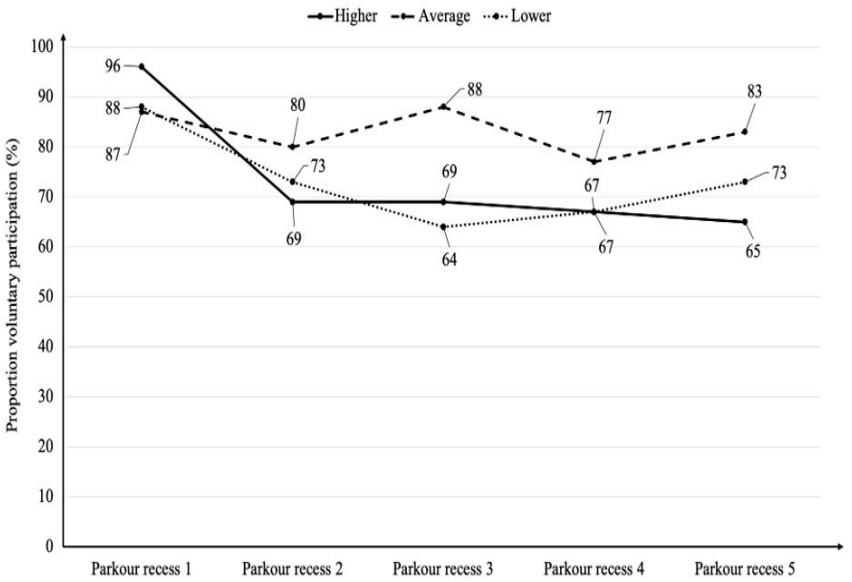
Figure 1 shows the mean proportions of higher-, average-, and lower-skilled children voluntarily participating in each parkour recess session during sport education parkour season. Overall, an average of 78% of children voluntarily participated in parkour recess, namely 78% of high-skilled children, 80% of average-skilled children, and 77% of lower-skilled children. Chi-square test only showed that average-skilled children (88%) had higher voluntary participation proportion in parkour recess 3 compared to higher-skilled (69%) and lower-skilled children (64%),^{2} (1, 147) = 9.28, p = .01. No significant differences were found on voluntary participation in other parkour recess sessions as a function of skill level.

Parkour Skill Trials in Physical Education and Parkour Recess

Table 2 shows skill trials variables relative to skill levels in physical education and parkour recess. In physical education, high-skilled children performed significantly more total skill trials than lower-skilled children (84 vs. 74, p = .011). However, average-skilled children (79) performed similar total skill trials compared with lower-skilled children (79 vs. 74, p = .229) and higher-skilled children (79 vs. 84, p = .121). Furthermore, higher-skilled children executed more skill trials per minute compared to lower-skilled children (3.91 vs. 3.47), p = .007, F(2, 138) = 3.80. However, no differences were found in skill trials per minute between average-skilled children and lower-skilled (3.73 vs. 3.47, p = .20) or higher-skilled level children (3.73 vs. 3.91, p = .103). In addition, lower-skilled children performed significantly less correct skill trials per minute than higher-skilled children (1.42 vs. 1.89, p < .001) and average-skilled children (1.42 vs. 1.75, p = .009), F(2, 138) = 7.33. Accordingly, significant differences were found for the percentage of correct skill trials between higher-skilled and lower-skilled children (48% vs. 40%, p = .001) as well as between average-skilled children and lower-skilled children (45% vs. 40%, p = .048), F(2, 138) = 5.40.

In parkour recess, lower-skilled children significantly performed less total skill trials than higher-skilled children (45 vs. 59, p < .001)

Figure 1
Proportion of Higher-, Average-, and Lower-skilled Children Voluntarily Participating in Parkour Recess (n=147).



and average-skilled children (45 vs. 53, $p = .007$), $F(2, 126) = 10.293$. Likewise, significant differences were found in total skill trials per minute between higher-skilled and lower-skilled children (3.91 vs. 3.05, $p < .001$) as well as higher-skilled and average-skilled children (3.91 vs. 3.57, $p = .006$), $F(2, 126) = 10.058$. In addition, lower-skilled children performed significantly less correct skill trials per minute than average-skilled children (1.03 vs. 1.57, $p < .001$) as well as higher-skilled children (1.03 vs. 1.74, $p < .001$), $F(2, 126) = 9.847$. In terms of the percentage of correct skill trials, lower-skilled children had a lower percentage of correct skill trials than average-skilled (32% vs. 42%, $p = .002$) and higher-skilled children (32% vs. 41%, $p = .002$), $F(2, 126) = 6.228$.

The effect of school, setting, and skill level were investigated using generalized linear mixed model. No significant difference was found in total skill trials per minute between physical education and parkour recess (3.71 vs. 3.51, $p = .051$). Due to the different duration between physical education and parkour recess (45 minutes vs. 20 minutes), On average, children performed significantly more total

skill trials in 10-lesson physical education (79) than in five-session parkour recess (52), $p < .001$. In addition, children performed more correct skill trials per minute in physical education compared with parkour recess (1.68 vs. 1.43), $F(1, 274) = 10.183$, $p = .002$. Furthermore, children had a higher proportion of correct skill trials in physical education (44%) than in parkour recess (38%), $p < .001$, $F(1, 274) = 12.993$.

Table 2
Means of Parkour Skill Trials in Physical Education and Parkour Recess as a Function of Skill Level (n=147)

	Physical education				Parkour recess			
	Overall (n=147)	Higher (n=54)	Average (n=61)	Lower (n=32)	Overall (n=135)	Higher (n=48)	Average (n=60)	Lower (n=28)
Skill trials/minute	3.71*	3.91[a]	3.73	3.47[a]	3.51*	3.91[a]	3.57[b]	3.05[a,b]
Correct skill trials/minute	1.68*	1.89[a]	1.75[b]	1.42[a,b]	1.43*	1.74[a]	1.57[b]	1.03[a,b]
Correct skill trials (%)	44*	48[a]	45[b]	40[a,b]	38*	42[a]	41[b]	32[a,b]
Incorrect skill trials (%)	56*	52[a]	55[b]	60[a,b]	62*	58[a]	59[b]	68[a,b]

Discussion

This study investigated the generalization of correct parkour skill trials from physical education to parkour recess in elementary school. Children's voluntary participation in parkour recess and their correct skill trials during a parkour sports education season and parkour recess as a function of skill level were assessed. This study aimed to answer two research questions: (1) What is the effect of skill level on children's voluntary participation in parkour recess? and (2) What is the effect of skill level on children's correct skill trials in physical education and parkour recess?

Voluntary Participation in Parkour Recess

On average, 77% of all children voluntarily participated in parkour recess, which was higher compared to previous work in parkour of Coolkens et al. (2018a) and Cheng et al. (2022), who had participation of 60% and 43%, respectively. High voluntary participation in parkour recess in this study confirms the positive effect of general-

ization that connects physical education content with activities during recess. De Meester et al. (2014) found that of 1049 children from 35 elementary schools, approximately 76% of them did participate in extracurricular school-based sports, which is consistent with our finding. Moreover, in this and Coolkens et al.'s (2018a) study, lower-skilled children had similar participation proportions as average-and higher-skilled children. Despite higher-skilled children performing more correct skill trials than lower-skilled children during physical education in this study, a similar proportion of both higher- and lower-skilled children participated in parkour recess.

In the physical education parkour session, children were asked to perform a parkour freestyle routine during the culminating event, which might have served as a motivating operation (Cooper et al., 2020; Iserbyt et al., 2022). In behavioral science, a motivating operation is an environmental variable (i.e., the upcoming culminating event) that increases the reinforcing value of a certain behavior (i.e., participating in parkour recess) (Cooper et al., 2020). Knowles and colleagues (2018) connected a sports education season in rugby and handball with recess to see whether students wanted to continue participating in those sports during recess in elementary school. The results showed that no girls participated in handball games during recess.

Skill Trials in Physical Education and Parkour Recess

Physical education is believed to develop children's motor and sport-specific skills (Hardman, 2011), the cornerstone of lifelong engagement in physical activity (Ennis, 2011). Research has shown that, in general, higher-skilled children participated more in physical activity programs in schools, while lower-skilled children participated much less. Since some level of skillfulness is needed to participate in an activity, we speculate that a lack of skill might hinder lower-skilled children's participation in those programs. Therefore, in this study, we analyzed children's parkour skill trials in sport education season and during parkour season as a function of skill level. Results showed that higher-skilled children had a higher proportion of correct skill trials than lower-skilled children (42% vs. 31%). Previous studies have shown that lower-skilled students had less than 50% of correct trials in physical education for volleyball (Graham, 1987) and badminton Iserbyt et al., 2015). However, Graham (1987) and

Iserbyt, Ward and Li (2015) found that higher-skilled students had over 67% of correct or successful trials in physical education, which is much higher compared to higher-skilled children (42%) in this study. There are a couple of reasons why higher-skilled children had lower proportions of correct skill trials in parkour. First, previous studies used different standards for coding skill trials in physical education. Graham (1987) coded successful motor skill responses in terms of the outcome of skills; for instance, a skill was coded successfully when the ball went into the basket. Iserbyt et al. (2015) coded the skill trial as correct when the students successfully performed two or three out of the critical elements. In this study, we coded a skill trial as correct when children's performance met all critical elements of that skill. Each skill had two to three critical elements. Second, children in this study learned 14 parkour skills within 10-lesson physical education, and each skill contains at least two critical elements. Critical elements of each parkour skill were based on a published source (Coolkens et al., 2018b) independent from the instruction of the teachers. Possibly, the teacher might have presented a certain skill incorrectly which affected our data collection. Third, the reported skill trial data represent the mean of parkour skill trials children performed at three different stations from lesson two to nine. Due to the variety of skills taught in this season, it is not unreasonable to think that all children, regardless of skill level, were more successful in certain skills compared to others. This could have affected their participation in parkour recess since children were given more freedom to choose what skills to engage in during parkour recess.

In addition, results showed that higher-skilled children performed more total skill trials than lower-skilled children in physical education. This finding is consistent with previous work in which it was found that higher-skilled students performed more skill trials than lower-skilled students in volleyball, badminton, and fitness content (Graham, 1987; Iserbyt et al., 2016; Son, 1989). Furthermore, Lund (1990) and van der Mars (2006) insisted that the exact time children engaged in skill practice instead of the number of skill trials children performed determined the quality of sport-specific skill learning in physical education. Lund (1990) found that higher-skilled students performed more volleyball skill trials per minute

compared to lower-skilled students in physical education, which is in line with the finding of this study that higher-skilled children performed significantly more parkour skill trials per minute than lower-skilled children. Correspondingly, results in this study also showed that in physical education, higher-skilled children performed more correct skill trials per minute than lower-skilled children.

Although it has been recommended that children learn generalizable skills in physical education to promote their engagement in physical activity outside of the class (McKenzie & Lounsbery, 2013), to date, few studies have investigated children's skill trials in recess. Investigating children's skill trials during recess is one way to assess that what was learned in physical education can be applied in another setting. School recess can provide children with equal opportunity to apply and improve skills learned in physical education if teachers set up an identical environment with physical education and encourage them to engage, which is in line with the goal of CSPAP (SHAPE America, 2015). Results showed that higher-skilled children performed significantly more skill trials than lower-skilled children in parkour recess. The reason might be that without much time spent on management and organization by teachers, higher-skilled children had more free time to be active during parkour recess. In addition, the results showed that children performed fewer correct skill trials per minute in parkour recess than in physical education, and the proportion of correct skill trials was also lower in parkour recess.

Limitations and Strengths

There are some limitations in this study. First, teachers and children had no previous experience with parkour. A "novelty effect" could, therefore, exist and have affected voluntary participation in physical activity during recess. Second, a 10-lesson parkour sport education session might be short for children to learn parkour skills, and we do not know whether children would maintain their participation in parkour recess after the ten lessons of parkour in physical education were over. Third, preparing parkour physical education classes and recess settings requires a lot of time to set up the equipment, which could be a potential barrier for teachers. Fourth, we don't know whether children would perform parkour skills learned in physical education on the playground during school or other activities after school.

This study extends the literature investigating transfer from physical education to recess and has several strengths. First, instead of using a sample, the parkour skill trials of all children were coded by eighteen trained and reliable observers in physical education and parkour recess sessions. Second, this is the first study connecting physical education content to recess using the concept of generalization that investigated elementary school children's correct trials as a function of skill level.

Conclusion

A high proportion of children voluntarily participated in the content offered during recess taught in physical education. As such, this study shows that children can apply what they have learned in physical education in another setting (e.g., recess). Future work can investigate the effect of generalizing skill trials in other content (e.g., team-based sports) from physical education to organized recess in elementary school. (Ashy et al., 1988)

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HEALTH

A Reflection of Experiences of Adults with Type 1 Diabetes in Integrated Physical Education Classes: A Qualitative Inquiry

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Abstract

The purpose of this study was to gain an understanding of the experiences of type 1 diabetics in physical education classes. In this study, we interviewed young type 1 diabetic adults and asked them to reflect on their school-based physical education experiences. An interpretative phenomenological analysis (IPA) approach was adopted to guide data collection, analysis, and interpretation for this retrospective study. Eight participants (ages 19 to 32) were enrolled in this study, and semi-structured interviews focused on their physical education experiences were the primary data. Transcribed interview data were analyzed using an IPA approach. Three interrelated themes emerged from the analysis process: (a) the (mostly negative) impact of physical activity in schools, (b) lack of education and understanding regarding type 1 diabetes, and (c) frustrations dealing with misconstrued expectations based on inaccurate beliefs. Themes depicted several barriers that type 1 diabetics face when accessing physical activity in physical education and their frustrations with the lack of education surrounding type 1 diabetes.

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Introduction

Type 1 diabetes is one of the most common chronic endocrine/metabolic conditions affecting adolescents (International Diabetes Federation, 2013). For example, new cases of type 1 diabetes have increased considerably during the "COVID years," with diagnosis rates increasing by 14% in 2020 and 27% in 2021 (Watson, 2023). Type 1 diabetes is typically diagnosed in children in the pre- or early stages of adolescence, but diagnosis trends show more children being diagnosed at ages 0 to 4 than ever (Dahlquist et al., 2011). As of 2009, type 1 diabetes was classified as a disability under The Americans with Disabilities Act (ADA), according to the American Diabetes Association (2009). The American Diabetes Association stated that amendments and regulations that classify type 1 diabetes as a disability developed due to the condition substantially limiting the function of the endocrine system.

Diabetics, in general, face serious health implications, both short- and long-term, including microvascular and macrovascular diseases (Daneman, 2006). However, the risk of heart disease is more significant for type 1 diabetics when compared to type 2 diabetics (Schofield et al., 2019). A contributing factor to this finding is that prolonged episodes of hyperglycemia can negatively impact heart function (Schnell et al., 2013). Other health risks associated with type 1 diabetes include kidney failure, peripheral neuropathy, and the development of psychiatric conditions, including anxiety and depression (Jacobson et al., 2013).

Regular physical activity may significantly improve the health of type 1 diabetics (Wu et al., 2019). Physical activity is vital in maintaining good heart health and reducing the risks associated with cardiovascular disease (Colberg et al., 2015). Specifically, in younger type 1 diabetics, engagement in physical activity can improve glycemic control, target lipid profiles, and body composition (Quirk et al., 2015). Physical activity in type 1 diabetics may also aid in achieving fitness and glycemic goals (Riddell et al., 2017). In addition, other risks associated with type 1 diabetes (e.g., kidney failure) may also be mitigated with regular physical activity (Jacobson et al., 2013; Kim, 2018; Kluding et al., 2016; Stump, 2011). In fact, exercise recommendations for diabetics experiencing neuropathy have changed in recent years due to the recognition of the benefits of exercise in

this population (Kluding et al., 2017). While the previous focus was on preventing injury in individuals with neuropathy, recent studies have shown benefits from continuing or increasing weight-bearing activity (Kluding et al., 2017).

Physical activity is not a simple recommendation for type 1 diabetics, though, as many physiological changes may influence one's ability to engage. For example, physiological changes that are directly associated with type 1 diabetes include the deterioration of connective tissues (Larkin et al., 2014), reduction of cognitive and motor functioning (Lobnig et al., 2006), impaired visual perceptual skills (Gaudieri et al., 2008), and multiple implications to the musculoskeletal system (Kılıçöz et al., 2022). As such, it is imperative to ensure that type 1 diabetics have access to safe physical activity opportunities in order to prevent or slow the progression of these negative physiological effects.

Despite the aforementioned health benefits, type 1 diabetes often affects an individual's ability to participate in everyday activities, such as exercising (Colberg et al., 2015). Supporting this, Wilkie and colleagues (2017) reported that type 1 diabetic children were less physically active than their non-diabetic peers. These findings could be a result of a number of barriers that type 1 diabetic adolescents diabetes face when attempting to access physical activity (Tully et al., 2016), which may have a negative impact on many type 1 diabetics' health and activity rates (Riddell et al., 2017). For example, many type 1 diabetics found it difficult to maintain euglycemia (normal blood sugar levels) both during and after exercising (Colberg et al., 2015). Early and late hypoglycemia and hyperglycemia were shown to be common results of exercising for many type 1 diabetics, making participating in physical activity potentially risky (Colberg et al., 2015).

For many children, physical education classes provide important opportunities for youth to be physically active (Meyer et al., 2011). That is, reports suggest that children participate in most of their daily physical activity through physical education classes (Cheung, 2017), and enjoyment of physical education has been shown to play a significant role in establishing a physically active lifestyle (Barr-Anderson et al., 2008). Unfortunately, many children with disabilities have reported negative experiences and associated feel-

ings toward physical education because of experiencing participation barriers or removal due to instructors' perceptions about their disability (Fitzgerald, 2005; Haegele & Sutherland, 2015; Haegele & Zhu, 2017). Findings such as these tend to appear in studies that center on and listen to the experiences and perspectives of students with disabilities regarding physical education classes (Healy et al., 2013). Allowing students with disabilities the opportunity for their voices to be heard constitutes a valuable acknowledgment of their individualized experiences (Nicoll & Campbell, 2012).

While research in this area of inquiry has grown in recent years, it tended to prioritize the voices of people experiencing only some disabilities (e.g., visual impairments, autism, physical disabilities). Thus far, no research exists, to our knowledge, that explores the experiences of type 1 diabetics in physical education. Due to the abundant benefits type 1 diabetic students can attain from physical activity, and therefore physical education, it is imperative to ensure these students can fully participate safely and are given the proper accommodations, if necessary, to do so. Thus, the purpose of this study was to gain an understanding of the experiences of people with type 1 diabetes in integrated physical education classes.

Methods

Research Approach

In this study, we interviewed young type 1 diabetic adults and asked them to reflect on their school-based physical education experiences. The retrospective method used in this study was purposefully selected, as it allowed individuals time to process emotions related to their past experiences and speak to their entire experiences related to physical education throughout their time in school (Haegele & Zhu, 2017).

An interpretative phenomenological analysis (IPA) approach was adopted to guide data collection, analysis, and interpretation for this retrospective study. IPA is used to examine a participant's personal experience, analyze an individual's perception or account of an experience, and investigate how the study's participants make sense of their personal and social world (Smith & Osborn, 2007). IPA utilizes three primary theoretical underpinnings, ideography, phenomenology, and hermeneutics, to understand personal lived

experiences (Smith & Osborn, 2014). IPA is idiographic due to its technique of interpreting an individual's detailed experiences rather than making general claims based on the responses (Smith & Osborn, 2014). Phenomenology stems from a philosophical approach that interprets lived experiences rather than utilizing preexisting theoretical preconceptions (Smith & Osborn, 2014). Lastly, IPA includes hermeneutic features by exploring how everyday lived experiences present themselves in individuals (Tuffour, 2017). All three theoretical underpinnings of IPA help researchers better analyze and understand the lived experiences of individuals. For this study, the researcher examined the meaning of experiences of type 1 diabetic adults during their physical education classes.

Participants

Eight participants were recruited to participate in this study. Participants were recruited primarily through personal contact recruitment using a criterion sampling technique, where the researcher contacted acquaintances who matched pre-specified eligibility criteria. For individuals to be considered eligible for this study, they were diagnosed with type 1 diabetes by a medical professional and participated in a physical education class after their diagnosis. Participants were at least 18 years of age and no older than 35 at the time of the interview. Participants attended an in-person public or private school that required physical education classes for their students. Of these eight participants, six identified as females and two identified as males. Participants' ages ranged from 19 to 32 years old. Seven participants identified as white, and one participant identified as white/Hispanic and Puerto Rican/Eastern European. All participants were assigned pseudonyms to protect their identity. See Table 1 for more detailed descriptions of the participants' demographic information.

Data Collection

Before the commencement of data collection, all procedures were reviewed and approved by the ethics review committee at [anonymized for review] university. Before data collection began, participants signed a consent form to protect the participant and the researcher. After providing consent, the participants were asked to select a time and date from a list of predetermined dates that worked

Table 1
Participants' Demographic Information

Name	Gender	Race/Ethnicity	Age (years)	Age Diagnosed	School Location
Aimee	Female	Caucasian	19	11	Rural
April	Female	Caucasian	32	13	Suburban
Dana	Female	Caucasian	26	3	Rural
Jack	Male	Caucasian/ Hispanic, Puerto Rican/ Eastern European	29	6	Urban
Melissa	Female	Caucasian	21	8	Suburban
Sheri	Female	Caucasian	26	6	Urban
Tim	Male	Caucasian	27	4	Urban
Trina	Female	Caucasian	22	11	Urban

best for them to schedule their interviews. The primary source of data for this study was one-to-one telephone interviews. One-to-one interviews were selected to help limit external influences or distractions and enhance comfort for participants to share personal experiences and build rapport with the interviewer. The interviews were semi-structured, with open-ended questions, and participants could speak more on specific topics if they wished. The interview questions followed a pre-established interview guide to support consistency across interviewees. The interview guide was inspired by prior research exploring the physical education experiences of other groups of individuals with disabilities (Haegele & Zhu, 2017). It was modified to be relevant to type 1 diabetics.

Interviews began with an introduction from the interviewer, West, where the interviewer described why the study was created, the interviewer's relationship to the study, and the motivation behind the data collection. Within this statement, the interviewer disclosed that she, herself, was a type 1 diabetic for two years, and she grew up with a sibling who was a type 1 diabetic, which informed her interest in doing the project, as well as her previous research work with type

1 diabetes. Following this, the researcher stated the purpose of the study and promptly followed with the first interview questions. All responses in each interview were audiotaped. These audio recordings were later transcribed verbatim. Additionally, the interviewer collected reflective interview notes throughout the interview to collect pertinent information and personal thoughts. These reflective field notes included information that highlighted significant experiences the participants shared that pertained to the research question.

Data Analysis and Trustworthiness

Once all interviews concluded, audio files were transcribed verbatim utilizing Otter [Mobile Application]. After all the interviews were transcribed, the first author analyzed the data via a three-step analysis procedure recommended by Smith and colleagues (2009) for IPA studies. First, the first author immersed herself in the study's original data by reading and rereading the transcriptions and reflective field notes several times. She also relistened to audio recordings of the interviews multiple times to become more familiar with the data. Second, she reduced the documents (transcriptions of the interviews and reflective notes) associated with each case into emergent themes at the case level (Smith et al., 2009). The primary objective of this step in the analysis was to produce concise statements that "reflect not only the participant's original words and thoughts but also the analysts' interpretation" (Smith et al., 2009, p.92). After the researcher found emergent themes at the case level, the final step was to search for patterns and connections across participants. Emergent themes were then identified through continuous comparison across cases. The first author identified recurring themes across each study, which were then summarized and presented as the study's results.

To analyze the quality and trustworthiness of interpretative phenomenological analysis, Smith and colleagues (2009) recommended the four principles of IPA: sensitivity to context, commitment and rigor, transparency and coherence, and impact and importance. Therefore, these four principles were utilized when assessing the quality of this study. Regarding sensitivity to context in this study, the interviewer communicated any biases or personal views to the participants before and during the interview process. The interviewer also stated their relationship to the study and why it was meaningful to them for transparency. To address commitment and

rigor, the interviewer remained focused throughout the interview, giving the study participant her full attention. The transparency and coherence of the study was demonstrated by ensuring the participant knew everything happening throughout the study. Procedures and information were given to each participant regarding the entire study's recruitment process, interviews, transcription, and analysis procedures.

Findings and Discussion

Three interrelated themes emerged from the analysis process: (a) the (mostly negative) impact of physical activity in schools, (b) lack of education and understanding regarding type 1 diabetes, and (c) frustrations from dealing with misconstrued expectations based on inaccurate beliefs. The first theme, the (mostly negative) impact of physical activity in schools, discussed the participants' experiences with physical activity in physical education classes and its (mostly negative) repercussions. The second theme, lack of education and understanding regarding type 1 diabetes, discussed the overall impact physical education teachers' lack of knowledge regarding the disease had on the experiences of type 1 diabetic students. Lastly, the third theme, frustrations from dealing with misconstrued expectations based on inaccurate beliefs, uncovered several ways that physical education teachers placed insufficient or unrealistic expectations on their type 1 diabetic students and how these expectations heavily affected their students.

The (Mostly Negative) Impact of Physical Activity in Schools

When discussing physical activity with participants, nearly all described that engaging in physical activity can impact blood sugars. For some participants, physical activity made their mood increase, helped keep them in shape, and was enjoyable. For example, Tim noted that "physical education was always fun for me when my numbers were cooperating. It helped me get ready for sports after school and stay in shape." Despite these reported benefits, our participants, like type 1 diabetics in general (Wilkie et al., 2017), noted not always having ample opportunities for physical activity. One potential reason why physical activity opportunities were rare for participants might have been because of the numerous negative experiences type

1 diabetics have expressed associated with physical activity, specifically in physical education. For example, participants expressed several instances of hypoglycemic (low blood sugar) episodes when participating in physical activity in physical education. When experiencing hypoglycemic episodes, participants reported that they were required to sit out of class until their blood sugar rose, not always receiving an excused break. Aimee, for example, expressed that:

> Some of my physical education teachers threatened me with point deductions when I was experiencing a diabetic-related issue and needed to step out. Some were more like, "yeah, if you step out, I don't care what is happening, it's going to affect your grade." However, others were much more understanding and let me sit out to correct my blood sugars.

Many participants noted having more negative experiences in physical education than positive. When describing these negative instances, the participants emphasized how drastically some elements of activities and the environment affected their blood sugars in physical education. For example, many participants mentioned how high temperatures or working out outside in the sun often affected their blood sugars negatively. Aimee mentioned:

> I definitely saw my blood sugars change negatively if we were doing weight training or a lot of cardio like in the weight room, but especially when we went outside the track, and it was super-hot. My blood sugars always were affected.

In addition, participants reported that rigorous cardiovascular activities, such as running, would drastically affect their blood sugars. Highlighting this, half of the study's participants mentioned how difficult the PACER test, specifically, was for them to complete due to blood sugar-related concerns. For example, Dana reported that:

> The PACER test always affected my sugars. It was always running for me. That's always what made me go low more often. Like I said before, the occasional rebound would happen, but out of any PE activity running would likely be the one to affect me.

Tim also mentioned how particular physical education activities, specifically weightlifting and cardiovascular workouts, would often alter his blood sugars. Some participants noted that their sugars would immediately drop to dangerous levels during the activity. The American Diabetes Association states that physical activity may lower a type 1 diabetic's blood glucose levels for more than 24 hours after the fact, as physical activity increases the body's sensitivity to insulin (American Diabetes Association, 2023). However, other participants referred to their struggles with experiencing low blood sugar at the end of class and having it affect their next class. Trina stated:

> Most of my lows were right at the end of physical education, so it was like oh, whatever class is over. But then it would delay me getting to my next class on time or my performance in the following class.

This is important to note, as hypoglycemia is an immediate medical emergency and can lead to dizziness, impaired vision, shakiness, seizures, or even a coma if left untreated (Hirsch, 2000).

Participants discussed various methods they utilized to reduce the risks associated with participating in physical activity in physical education. Some participants stated that they felt safest when taking care of themselves during a hypoglycemic episode, as they felt as though others around them, including their physical education teachers, were unsure of how to handle the situation. For example, Melissa noted that she would give her physical education teacher a bag of candy at the beginning of the year in case of an emergency related to physical activity in physical education. Additionally, Sheri shared that her mother would give out fanny packs to her teachers at the beginning of the year, which were full of candy and juice boxes in case of an emergency. Some participants stated that their parents would meet with the school to schedule physical education after lunch, as they would have just eaten and would be less likely to experience a hypoglycemic episode. For example, Sheri reported that:

> During my 504 planning meetings, my parents would always request that I have physical education right after lunch. Doing this always helped ensure my blood sugars are good because I would have just eaten a high volume of carbohydrates and

would bolus slightly less, knowing I would be exercising right after.

Similarly, Trina mentioned that before strenuous cardiovascular physical activities, such as running, she would make sure to eat something with a little bit of protein beforehand. She spoke about how even a little bit of peanut butter would help her from going low during runs. Sheri also spoke about the methods she utilized to control her blood sugars in physical education and said:

> I had a plan set in place where I would receive the curriculum plans for physical education a week in advance. Because I knew the activities in advance, I would either have like extra protein at lunch or cut back on my amount of insulin intake for what I was eating depending on how strenuous activity would be.

Related, some participants noted that they would reduce their insulin intake in classes before physical education in hopes of preventing their blood sugar from dropping during class.

Lack of Understanding of Type 1 Diabetes in Physical Education

The most common finding in this study was about the lack of knowledge and education that physical educators have about type 1 diabetes and the impact that this had on our participants' experiences. Every participant in the study mentioned their struggles and frustrations associated with their physical education teachers and educators in general not understanding their disease. This included physical educators who were also health educators who still did not have a sound understanding of their disease and were, for some, unable to distinguish between type 1 and type 2 diabetes. For example, April voiced her frustration with the misconception from physical education teachers and how she wished physical education teachers especially would learn the difference between type 1 and type 2 diabetes and that there was a lot more to be aware of than just fainting from low blood sugars. Because of these misunderstandings, some participants stated that their physical education teachers would often lecture them on diet and how their disease is preventable, which

is inaccurate and caused frustration among the participants. For example, Dana recalled that:

> I felt like a lot of their knowledge all came from type 2 diabetes, which especially sucked in like the physical education department because, you know, type 2 can be manageable with diet and exercise which is something that they were being literally paid to teach and so, I felt like they all very often thought I was exaggerating.

The participants were vocal about how dangerous it was for type 1 diabetic students not to have a physical education teacher know what type 1 diabetes was and the dangers associated with physical activity for them. For example, Dana also emphasized that she felt as though her health was not taken seriously in physical education due to the misconceptions about her disease when she stated:

> I had a very consistent feeling that my PE teachers were under the impression that I was taking advantage of my diabetes and that I just didn't want to participate in gym class, and I just felt like my health was not taken seriously. I felt like they really, especially as I became a preteen/ teenager, felt like they really just thought I was trying to get out of gym, which was ridiculous because I played sports all the time.

This lack of understanding from physical education teachers regarding type 1 diabetes is, unfortunately, not surprising, given other research that has demonstrated that teachers do not have enough training in working with students with disabilities in general (Martin, 2017). Many physical education teachers have reported doubting the ability to provide opportunities for students with disabilities/additional health support needs due to a lack of appropriate support services and professional training (Ioanna et al., 2005). Findings such as these are why physical education professionals need to receive appropriate training on disabilities/health conditions their students may have and listen to their perspectives, such as those presented in the study, to better understand their experiences (Haegele & Sutherland, 2015).

A significant aspect of type 1 diabetes is that participants wished their physical education teachers had better knowledge of low blood

sugars. Some participants expressed that their physical education teachers did not understand the severity of the low blood sugar and would discredit the student during the medical emergency. Sheri stated:

> My PE teachers did not understand the importance of a low blood sugar, or really even a high blood sugar. The only time I felt they understood is when I was able to tell them, 'hey, my blood sugar is high, I can't participate'. They'd be like, okay. But, if I were low, then it was like adding an extra layer of complication, because I have to stop to treat myself or like to sit out for, you know, X amount of time before I could resume. Or if I was already engaged in the activity and I'd have to like, step away, or just stop completely for the remainder of the class depending on where my blood sugar levels were at. That they just didn't get it.

The influence of inaccurate knowledge or stereotypes that the participants' physical educators had regarding type 1 diabetes was viewed as highly impactful, especially socially and mentally. Aimee reported feeling isolated due to the lack of knowledge about appropriately dealing with low blood sugar. She noted:

> Some of my physical education teachers were checking in with me every 15 minutes, and that's like three or four times in a class period and I'm just like, I don't want you checking in on me that much. It made me feel isolated. But then there's times where I'd have low blood sugar, when they need to check in on me, and never did. It was extremely frustrating.

Additionally, two participants, April and Melissa, expressed that they kept their diagnoses from their physical education teachers because their lack of understanding affected their social lives and mental health. Melissa stated:

> I feel like my biggest thing was the social aspect of it. I knew a lot of my PE teachers would kind of make an announcement to the class about my diagnosis without my permission. At that point, I did not let everyone know about my diagnosis. I was almost embarrassed of it growing up, because there's

such a negative outlook towards diabetes and people don't know the full extent.

These findings indicated an immediate concern, as hiding their disability could have health implications and dangers. When physical education teachers are not made aware of a student's disability, they expect that student always to be able to do the activities other students are participating in, which can be especially dangerous (Moola et al., 2011). Physical education teachers especially should be aware of their students with type 1 diabetes due to the increased likelihood of blood sugar changes when participating in physical activity (Colberg et al., 2016).

Frustrations from Dealing with Misconstrued Expectations Based on Inaccurate Beliefs

Related but distinct from the prior theme, our participants discussed and described the significance that misconstrued expectations of others had on their experiences within physical education. For example, the participants emphasized how frustrating it was when a physical education teacher acted as though they knew everything regarding the disease, when their understanding was often influenced by false information and personal beliefs. Melissa spoke about her frustrations with this aspect, specifically addressing the assumption that all type 1 diabetics were the same, when she said:

> My big thing is all type 1 diabetics are different. So, it's kind of like, let me tell you how I function so you know how I handle things and we can go from there. It's not something where the teacher needs to tell me, 'Oh, you have to do this or this'. I've noticed that a lot growing up. They all like to input their personal beliefs and opinions on how you should handle a situation and like, I've been handling it a certain way for so long, that I should not have been made to feel like I needed to change it just because they think we're all the same.

Dana also emphasized how frustrating it was when a physical education teacher's false assumptions led to dangerous expectations. This participant emphasized the importance of leaving personal beliefs and potentially hurtful stereotypes behind when working with type 1 diabetics. If not, she stated the child may feel unheard, iso-

lated, or unsafe in the classroom. To remediate issues like this, Dana emphasized that if a physical education teacher speaks to their student with type 1 diabetes and attempts to better understand them, it can make the student feel heard and safe and may align the teacher's expectations with the student's abilities. She stated:

> No matter what, a student that feels seen and validated is going to perform better in their classes regardless of what that class entails. If a child feels welcome and at least there is an attempt being made to understand that child, that kid is going to want to be present and want to put their best of their abilities into what they're doing. If they're physically or mentally unable to do what is being requested of them, then they're at least going to be more enthusiastic about seeking an alternate activity fulfilling the requirements in a different way if they're being worked with instead of worked against. On top of just everything else, no matter what an educator thinks, the child knows more about their body than the educator ever will.

Like Dana, others expressed their frustrations with the closed-mindedness of physical education teachers regarding type 1 diabetes, especially in physical education, and how these narrow views impacted their experiences. Nearly half of the participants noted the importance of physical education teachers understanding that type 1 diabetic students could do anything other students can do, just with additional support and understanding. Physical education, specifically, has been found to have less experience for children with disabilities to "feel capable" and "surpass limitations" (Bredahl, 2013). Expressing her frustration, Trina said:

> Never tell a student that they can't do something, because then you put the words that you can't do it. It gives them this negative connotation and not all kids, especially early on in diagnosis, will believe that they can still do everything. So, when you have that one person who says "oh, you can't go exercise" or "oh, you can't have snacks," it gives that negative connotation that can stick with a child forever.

Contradicting the view of other participants, one participant emphasized that it's essential not to tell type 1 diabetic students that they can do anything. Dana explained how being told this made her feel lesser than her peers. For example, instances when she was experiencing low blood sugar or another type 1 diabetes-related inconvenience, and she was physically unable to do an activity being asked of her. She noted:

> When you grew up with diabetes, you have a bunch of adults telling you that you can do everything that everyone else can do and that it doesn't have to hold you back and that like there's nothing that diabetes can take away from you and you're still a normal kid and all this and blah, blah, blah, and you can do anything you want. That's not true, and adults need to stop telling children with diabetes that, because diabetes is a disability and there's plenty of stuff that I can't do. There's plenty of stuff that I couldn't do as a child. So, I grew up thinking every time my diabetes kept me from doing something that there was something wrong with me, because I'm supposed to be able to do everything everyone else can do and all that but couldn't.

It is differences such as these two perspectives that signify the importance of speaking to students and learning about their experiences and perspectives. Talking to a student with a disability can enhance disability awareness and sensitivity to students with disability's preferences (Seymour et al., 2009). Every student with type 1 diabetes is different and will require different accommodations and experience different struggles.

Implications for Physical Education Teachers

Several implications for physical education teachers can be derived from our findings. Here, we highlight just a few of those. Still, we believe that physical educators generally would benefit from reviewing our participants' words to better understand how type 1 diabetics experience physical education, and tailor their pedagogical practices to these needs. That is, through listening to the perspectives of our participants, we've learned the importance that type 1 diabetics place on communication and opportunities for students to

speak with teachers to discuss accommodations. For example, some participants discussed the need to test their blood sugars before, midway through, and after physical education. In contrast, others may monitor their blood sugar via continuous blood glucose monitors, often read through cell phones. Knowing this information as a physical education teacher is essential, as the child must be permitted to engage in activities needed to monitor and support their blood glucose (e.g., checking phones, sitting out) when needed, without repercussions. Additional procedures such as carrying glucose tablets or juice in physical education may be good suggestions for a hypoglycemic event.

In addition to speaking with their students about their needs and accommodations, another avenue to gain insight into needs could be learning more about 504 plans and how they can help type 1 diabetic students. Not all type 1 diabetic students are made aware that they have the right to have a 504 plan, so by learning more about them, physical education teachers may be able to both familiarize themselves with these plans that protect the students and educate their students on how they may obtain a 504 plan. It is also important for physical education teachers to attend these 504 plan meetings. These meetings represent another opportunity for physical education teachers to learn a lot about how to best accommodate type 1 diabetic students and how to keep them safe in the classroom. Taking all of these strategies into consideration may decrease the likelihood that type 1 diabetics will have negative experiences in physical education.

Limitations

There were two main limitations to this study. First, since the study was conducted via telephone call formatted interviews, body language and facial expressions could not be recorded. Body language could tell the interviewer significant information about how the individual feels and how comfortable they are (Cingi et al., 2023). Without this information, the interviewer had less insight into the nonverbal behavior of the interviewee. Second, this study was retrospective, meaning that the recorded experiences of this specific population may not represent current experiences. The participants may also not have been able to remember every detail of their experiences, as they could have occurred several years ago.

Conclusion

The purpose of this study was to gain an understanding of the experiences of type 1 diabetics in integrated physical education classes. Utilizing a retrospective IPA approach, three interrelated themes were constructed. The first theme, physical activity with type 1 diabetes in physical education, discussed how the blood sugars of a type 1 diabetic may be altered by physical activity. The second theme, lack of education and understanding regarding type 1 diabetes in physical education, discussed the massive array of barriers that type 1 diabetics face when their physical education teachers do not understand or attempt to accommodate their students with type one diabetes. This was found to be the most prominent issue that participants in the study encountered as participants discussed how drastically a lack of understanding of type 1 diabetes can affect type 1 students in physical education. The last theme found in this study is frustrations with dealing with misconstrued expectations based on inaccurate beliefs. This theme uncovered several ways that physical education teachers are placing insufficient or unrealistic expectations on their type 1 diabetic students and how these expectations heavily affect their students. Based on these findings, it is clear that teachers and their knowledge and abilities were central to our participants' experiences, further emphasizing the importance of active communication between teachers and students, as well as professional development and training that has type 1 diabetes content in mind.

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PHYSICAL ACTIVITY

Physical Activity and Motor Skill Trials in an Inclusive Elementary Physical Education Setting: A Case Study

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Abstract

The inclusion of children with disabilities within general physical education contexts poses challenges in maximizing their learning potential. This case study aimed to investigate physical activity levels and correct motor skill trials of a child with a developmental delay in relation to her typically developing peers and the extent to which the physical education teacher made the learning environment inclusive. Nineteen children (12 boys, seven girls; mean age 8 years) and their physical education teacher (female, 50 years) from one second-grade elementary school class in Wallonia (Belgium) participated in this study. The physical activity levels and motor skill trials of an eight-year-old girl with developmental delays caused by a metabolic disease were compared to her typically developing peers. Systematic observation was used to assess physical activity levels and skill trials, while the Lieberman-Brian Inclusion Rating Scale for Physical Education (LIRSPE) was used to assess the teacher. Inter-observer agreement for all variables was above 87%. During physical education, Emily spent

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29% of her time on MVPA, lower than her peers in three out of five lessons. Similar results were found for total skill trials and skill trials/min, while for percentage correct skill trials values were lower during all lessons. The LIRSPE ratios per lesson varied from 3.21-3.53. However, this does not confirm that the setting was highly inclusive. Interactions between children with disabilities, their peers, and teachers should be the topic of future studies.

Introduction

As stated by Article 24 of the UN Convention on the Rights of Persons with Disabilities, children with disabilities have the right to attend general education schools (Hendriks, 2007). This implies that children with disabilities are also integrated into general physical education settings. While integration refers only to the setting where learning or participation may occur (Haegele, 2021), inclusion is defined as a subjective experience associated with individual interpretations, feelings, beliefs, and perceptions (Haegele, 2019). However, Zhang and Griffin (2007) stated that "Inclusive physical education is an educational placement where all children are accepted and educated (p. 33)." This definition enables us to investigate inclusive physical education from a qualitative and a quantitative perspective. Although the conceptualization and views on inclusion differ, children with disabilities are often included in general physical education in a way that does not maximize their learning potential (Lieberman et al., 2019). Few studies have looked into inclusive physical education settings from a quantitative perspective, for example, by investigating their physical activity and motor engagement.

Children with disabilities are especially at risk for a sedentary lifestyle and the associated health risks in terms of cardiovascular and metabolic diseases (Sit et al., 2007). A disability leads to a decline in physical functioning as it limits children's participation in physical and daily activities (Sit et al., 2007). In addition, children with disabilities tend to have lower fitness levels, higher levels of obesity, and lower physical activity levels (Heath & Gentem, 1997; Murphy et al., 2008; Van der Ploeg et al., 2004). The United Nations (UN) Convention on the Rights of Persons with Disabilities states that physical activity is a right for all children, including those with a disability, within educational institutions (United Nations International

Children's Emergency Fund, 2007). Schools are a unique and important setting that provides children with opportunities for physical activity because they spend many of their waking hours at school (McKenzie & Lounsbery, 2014). In addition, physical education is mandatory, and for some children, it is the only opportunity to engage in moderate-to-vigorous physical activity (MVPA; McKenzie & Lounsbery, 2014). To provide children with the daily recommended 60 minutes of MVPA (WHO, 2023), comprehensive, collaborative school-based efforts are established (i.e., Comprehensive School Physical Activity Program; CSPAP). Physical education plays a central role in this effort, although physical education alone cannot account for the 60 minutes of daily MVPA.

Some authors reported significant differences in MVPA during physical education between adolescents with disabilities and their typically developing peers, for instance, in children (8-11 years) with intellectual disabilities who generated only 23% of MVPA compared to 28% for their typically developing peers (Faison-Hodge & Poretta, 2004). In addition, children with autism spectrum disorder were less active during physical education in two studies (35% versus 45%, Pan et al., 2011; 30% versus 53%, Pan et al., 2015). However, several authors reported no significant differences in MVPA levels in inclusive elementary and secondary physical education settings for children with autism (Pan et al., 2008; Pan et al., 2013; Sandt & Frey, 2015) and auditory disabilities (Lieberman et al., 2000). Although these findings are contradictory, most studies reported values below the benchmark of 50% MVPA during physical education (Institute of Medicine, 2013). Children with intellectual disabilities (8-11 years) generated 23% of MVPA during physical education (Faison-Hodge & Poretta, 2004), while preschool children with developmental delays achieved 33% MVPA (Stanish & Mozzochi, 2000). Whereas children (10-12 years) with auditory disabilities had MVPA levels ranging from 40%-72% MVPA during baseline, a peer tutor intervention increased those values to 62%-96% MVPA (Lieberman et al., 2000). For children with autism spectrum disorder, MVPA levels ranged from 30%-46% (Pan et al., 2008, 2011, 2013, 2015; Sandt & Frey, 2005).

One of the goals of physical education curricula worldwide is to develop motor skill competency (Hardman, 2008). To successfully

participate in physical activities, some level of motor competence is needed (Cheng et al., 2023). Motor skills learned in physical education support children's participation in physical activities both at school (e.g., recess) and outside of school (e.g., sports club) and can support the development of a physically active lifestyle (Drijvers et al., 2022). Research has shown that children with higher skill levels are more likely to meet physical activity guidelines compared to their lower-skilled peers (De Meester et al., 2018). In addition, children with higher motor competence are more likely to engage in various types of physical activity and are more likely to demonstrate increased success and enjoyment in different movement domains (De Meester et al., 2018). For children with disabilities, several studies reported significantly lower motor competence scores than typically developing peers (Capio et al., 2012; Lourenca et al., 2020; Rintala & Loovis, 2013). For children with disabilities, a lack of gross motor development is often a reason for decreased physical activity levels (Ketcheson et al., 2021).

In physical education, children's skill performance has been investigated in terms of total and correct skill trials (Cheng et al., 2023; Graham, 1987; Hastie et al., 2011; Ward & Li, 2017). In a study with elementary school children by Cheng et al. (2023), parkour skill trials per minute ranged from 3.26-4.05, while the percentage of correct skill trials varied from 42%-49%. For both variables, no differences were found between boys and girls, which aligned with the work of Graham (1987), who found similar successful skill trials for boys and girls. However, Graham (1987) reported higher success rates for higher-skilled children (63%-88%) compared to lower-skilled children (22%-67%). In a secondary school study, girls performed fewer correct skill trials than boys during a badminton unit (Ward & Lo, 2017).

Physical education teachers play a crucial role in offering all children developmentally appropriate learning experiences and sufficient opportunities to become skillful (Reeves & Stein, 1999), especially children with special needs. Lieberman et al. (2019) developed the Lieberman-Brian Inclusion Rating Scale for Physical Education (LIRSPE), which measures the actions taken by teachers to include children with disabilities in a general physical education setting. All items included in the LIRSPE align with evidence-based

practices within the inclusion literature, such as providing children with choices or adapting instruction to children's needs (Lieberman et al., 2019a). Physical education teachers must ensure that children with disabilities have the same choices and options as their typically developing peers. If this is not the case adaptations are needed, such as differentiated instruction, equipment modifications (e.g., a lower or softer obstacle to jump on/off), rule modifications (e.g., offering the option to make extra contact with the obstacle), environmental modifications (e.g., increasing accessibility) and instructional modifications (e.g., physically assist the child through the parkour skill) (Lieberman & Houston-Wilson, 2009). Differentiated instruction refers to modifying teaching to meet the needs of every student (Lieberman & Houston-Wilson, 2009). Very few attempts have been made to quantify the quality of inclusive environments during physical education.

The purpose of this study was to (1) investigate the MVPA and (2) correct motor skill trials of a child with a developmental delay in relation to her typically developing peers in an inclusive physical education setting in elementary school. Third, the extent to which the physical education teacher attempted to make the learning environment inclusive was assessed.

Methods

Participants and Setting

A total of 19 children (12 boys, seven girls; mean age 8 years), including Emily (pseudonym) and their physical education teacher (female, age = 50 years, experience = 31 years) from one second-grade elementary school class in Wallonia (Belgium) participated in this study. Emily was an eight-year-old girl with developmental delays caused by a metabolic disease. The teacher taught a seven-lesson parkour unit in physical education. Before the start of the parkour unit, the teacher was asked to label children based on their skill level as lower or higher based on her experience and previous assessments of physical education motor activities. Eight children were labeled as higher-skilled, while 11 were classified as lower-skilled, including Emily. For both children and the physical education teacher, parkour was a new content domain in which they had no prior experience.

Physical Education

Physical education is a mandatory subject in Belgium elementary schools and physical education lessons in this school were scheduled twice a week. A seven-lesson unit in parkour was taught in physical education in the school's gymnasium, which was about 20 by 8 meters in surface. Parkour is an individual movement domain where children overcome obstacles fluently and efficiently (Coolkens et al., 2018; Vanluyten et al., 2023). Station work was implemented during all lessons, and children rotated three stations to work on parkour skills. At the end of the lesson all groups had practiced at each station. The parkour unit initially consisted of 10 lessons, but only seven lessons were taught due to the COVID-19 pandemic and accompanying lockdowns.

Physical Activity

The System for Observing Fitness Instruction Time (SOFIT; McKenzie et al., 1992) was used to code the MVPA levels of all children. SOFIT is a valid and reliable tool to record MVPA levels of elementary school children (Rowe et al., 1997) and Stanish & Mozzochi (2000) used SOFIT to record children's physical activity levels with and without developmental delays. This systematic observation tool uses a six-second observation and six-second record interval. During the observe interval, observers focus on one target child, while at the record prompt his/her activity level was recorded. Physical activity is coded as one of five levels, with (1) lying, (2) sitting, (3) standing, (4) walking, and (5) activities that require more energy than walking. Sedentary behavior is the sum of codes one to three, while code 4 (moderate) and code 5 (vigorous) form the MVPA variable.

Skill Trials

A skill trial was defined as the discrete performance of a parkour movement during physical education (Cheng et al., 2023). Eight different parkour movements, each with several progressions, were taught during this lesson unit, and critical elements were based on the parkour handbook (Coolkens et al., 2018a). Skill trials per minute were calculated as the total amount of skill trials during one lesson divided by the skill practice time in minutes. The proportion

of correct skill trials was calculated as the total correct trials divided by the total amount of skill trials multiplied by 100. A skill trial was coded as correct if all critical elements (two to three, as taught by the teacher) were demonstrated. A skill trial was also coded as incorrect when children didn't finish the full trial, sat down on the object during the performance, and when children were stopped by the teacher during the trial or fell while executing the parkour movement.

The Lieberman-Brian Inclusion Rating Scale for Physical Education

The Lieberman-Brian Inclusion Rating Scale for Physical Education (LIRSPE) assesses the extent to which a physical education teacher provides an inclusive environment for all children (Lieberman et al., 2019a, 2019b). The LIRSPE has 28 items, which can be scored from 1 (no effort) to 5 (high effort) or are not applicable. Since the Belgian context in inclusive physical education is somewhat different only 19 items were used. Items concerning speed of play (4), paraeducators (10, 11), peer-partners (12-15) and summative assessment (the latter was not conducted) (23, 24) were not scored. Emily was present during each physical education lesson, and the LIRSPE was assessed through video coding.

Teacher Training

The physical education teacher received a parkour manual and followed a four-hour content knowledge workshop on parkour in her gymnasium (Vanluyten et al., 2023). During the workshop, different parkour moves were introduced, focusing on critical elements, common errors, and how to correct them. The teacher performed all parkour moves at each difficulty level (common content knowledge), then she instructed them to the research team (specialized content knowledge). Common content knowledge (CCK) includes knowledge concerning rules, etiquette, techniques, and tactics. In contrast, specialized content knowledge (SCK) focuses on instructional tasks to teach children the content (i.e., parkour) and the knowledge of common mistakes made by children to correct these during the lesson (Ward et al., 2020). Several content knowledge interventions with both pre- and in-service teachers showed positive effects on both teacher behavior and student learning (Iserbyt & Madou, 2022; Ward et al., 2022). Throughout the workshop, the

instructor asked questions to check the teacher's understanding of the content. Although the workshop contained several strategies for differentiation, no specific adaptations or recommendations were added concerning Emily.

Coder Training

Observers were trained to collect reliable data on children's MVPA, skill trials, and teacher's LIRSPE data. Training started with learning the definitions of physical activity levels, parkour moves, their critical elements, and the structure of LIRSPE. To assess the observer's understanding, a written test was conducted in which they had to achieve a 100% score to proceed to the next training step. In a second test, written scenarios were given to the observers, and they had to code regarding MVPA, correct skill trials, and LIRSPE code. When a score of 85% or more was achieved, observers proceeded to the last step, in which they were required to get an interobserver agreement score of at least 85% on a video recording of a parkour physical education lesson.

Data Collection

Data collection was conducted from January to March 2020, where the COVID-19 pandemic and the associated lockdown resulted in an early termination (seven lessons instead of ten) of the investigation. Data on physical activity for all children was collected during seven physical education lessons through video recordings. Only five children (including Emily) were selected for coding skills trials per minute and correct skill trials during seven physical education lessons due to problems with video recording. The poor quality of the video, together with the parkour equipment that obstructed the view of the children, limited the number of children whose skill trials could reliably be coded. Besides Emily, one lower and one higher-skilled child of each sex was selected. During lessons three and seven, Emily was absent; therefore, for those lessons, there is no data with regard to the dependent variables. The video recordings were used to assess the LIRSPE. A total of 44 hours of observations were done to code all subjects and cover all dependent variables. For physical activity, 20% of all data was coded by two independent observers, above the 12% recommended by McKenzie et al. (1992), with a reliability of 87%, above the recommendation of behavioral

research (Cooper & Heron, 2007). For skill trials data, all data was coded by two independent observers with a reliability of 95% for total skill trials and 91% for correct skill trials. Similarly, two independent coders assessed the LIRSPE with a reliability of 97%.

Data Analysis

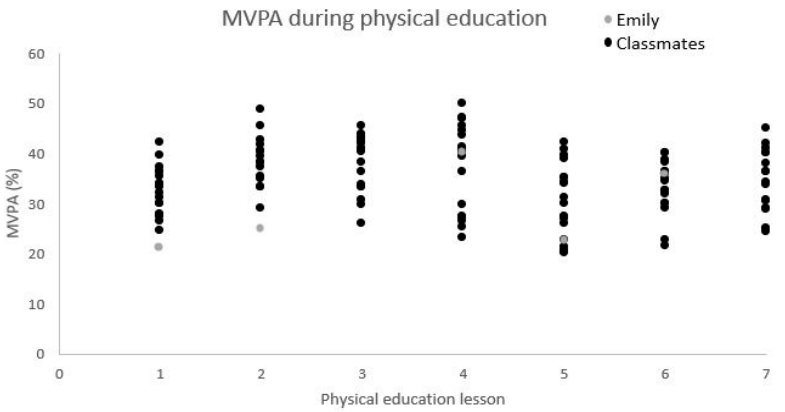
This study was a descriptive case study to investigate Emily's MVPA and correct skill trials in relation to her typically developing peers during physical education. Physical activity was reported as a percentage of intervals spent in MVPA, while skill trials were reported in totals as a function of time (skill trials/min) or as a percentage of correct skill trials. For each lesson, the LIRSPE score was calculated by dividing the total score by the number of items (19).

Results

Physical Activity

Figure 1 shows the percentages of MVPA for all children in each physical education lesson. On average, Emily spent 29% of intervals in MVPA during physical education, compared to 33% for girls and 36% for boys. During physical education lessons one and two, she had the lowest MVPA level compared to her classmates, while in lesson five, she also generated among the lowest activity levels. In contrast, during lessons four and six, Emily had higher levels of MVPA compared to her peers.

Figure 1
MVPA During Physical Education



Skill Trials

During the first lesson, the total amount of skill trials ranged from 96-161, while the values in the other lessons were lower: lesson 2 (31-76 trials), lesson 4 (39-53), lesson 5 (17-37) and lesson 6 (39-62). In Table 1, total skill trials, the skill trials per minute, and the percentage of correct skill trials per lesson are reported for Emily and compared with four other children (two boys and two girls, each of a different skill level). Emily performed lower total skill trials than her peers in lessons two and five. She had lower values for skill trials per minute (ranging from 2-16) and for the percentage of correct skill trials (12-56%) compared to the three other children (2-34 skill trials/min and 53-96% correct skill trials).

Table 1
Skill Trials During Physical Education

		Emily	Girl Low	Girl High	Boy Low	Boy High
	Total skill trials	108	96	100	142	161
PE 1	Skill trials/min	16	20	21	30	34
	%Correct skill trials	56	81	60	67	81
	Total skill trials	31	55	72	/	76
PE 2	Skill trials/min	3	7	9	/	10
	%Correct skill trials	32	76	96	/	76
	Total skill trials	40	43	53	39	42
PE 4	Skill trials/min	4	5	6	5	5
	%Correct skill trials	35	74	83	59	76
	Total skill trials	17	29	37	17	31
PE 5	Skill trials/min	2	3	4	2	4
	%Correct skill trials	12	79	92	53	84
	Total skill trials	44	39	62	57	56
PE 6	Skill trials/min	4	3	5	5	5
	%Correct skill trials	25	54	68	56	70

LIRSPE

In Table 2, the total scores of the LIRSPE are reported, as well as the number of items that were scored. Some items were irrelevant to the Belgian context and therefore not scored, resulting in 19 items. The LIRSPE ratios per lesson varied from 3.21-3.53. While most items remained the same throughout the lesson unit, the scores increased towards the last lesson for three items. These were (1) demonstration by various members of the class, including children with disabilities (item 9), (2) skill-related feedback with use of first names

Table 2
Skill Trials During Physical Education

	PE 1	PE 2	PE 4	PE 5	PE 6
Total score	61	65	65	63	67
Amount of items	19	19	19	19	19
LIRSPE (Ratio)	3,21	3,42	3,42	3,32	3,53

(item 26), and (3) teacher checks for understanding of all children during closure.

Discussion

The purpose of this study was to investigate (1) the physical activity levels and (2) correct motor skill trials of a child with a developmental delay in relation to her typically developing peers in an inclusive physical education setting in elementary school. Third, we investigated the extent to which the physical education teacher attempted to make the learning environment inclusive, which was assessed with the LIRSPE.

Physical Activity

Physical activity levels for Emily were low compared to her classmates, except for lessons 4 and 6. However, overall, the children in this class did not meet the 50% MVPA guideline during physical education. Furthermore, overall MVPA levels were lower than those of typically developing peers (Hollis et al., 2016). On average, Emily generated 29% MVPA during physical education, which is in line with other children with developmental delays (Stanish & Mozzochi, 2000), which was lower than most of her peers, as shown in Table 1. However, during lessons 4 and 6, her MVPA levels were higher compared to her peers. This might be because certain parkour moves could be easily adjusted to Emily's skill level, while this was difficult for others. For example, children ran up an inclined bench for the wall run and jumped off. Because sufficient equipment was available, two setups were built, one with a small inclination and one with a larger inclination. In addition, the teacher adapted this task by instructing children to jump off the bench at a height they felt comfortable. This type of adaptation was not possible for other park-

our moves; for example, the height of a plinth cannot be adapted for every child.

Skill Trials

During the first physical education lesson, the skill trials per minute were higher than during the other lessons (16-34 versus 2-10 skill trials/min). This is a result of precision jumps, landings, and strides that were taught during lesson one. These movements are relatively short, discrete, and can be executed at a high frequency, resulting in more skill trials per minute, in contrast to overcoming an obstacle that takes more time. Although Emily executed fewer skill trials per minute compared to her peers, the differences for correct skill trials were more prominent. Because the correctness of a skill trial depends on the teacher's instruction, the skill trial data shows that the instructions were insufficiently adapted for Emily, resulting in a lower percentage (12-56%) of correct skill trials. Brophy and Good (1986) reported an optimal rate of around 75-80% during guided practice, which tries to balance success and sufficient challenge (Rosenshine, 2009). Skill development in physical education is important for participating in physical activities in school and later in life because some level of competency is needed (De Meester et al., 2018). In essence, the results from this study underline the need for future research to investigate how children with disabilities can improve their motor competence in inclusive settings.

LIRSPE

The LIRSPE ratios are all above three, reflecting that the physical education teacher tried to include Emily (Lieberman et al., 2019). Although very small, an upward trend in LIRSPE ratios was noticeable, which might indicate the teacher's increasing success in creating an inclusive physical education environment. However, the highest LIRSPE values do not correspond with the highest MVPA levels or correct skill trials for Emily. This shows that further analysis might be needed to pinpoint why certain instructions are developmentally appropriate or not for Emily. Furthermore, LIRSPE items with low scores, for example, the provision of a range of equipment to address the learning needs of all students in the class (item 21), can be addressed through intervention studies while collaborating with teachers.

Limitations and Strengths

To our knowledge, it is the first study to report children's physical activity and skill trials in an inclusive physical education setting as well as to document the effort of the physical education teacher to make the learning environment inclusive by means of the LIRSPE ratio. An important limitation of this study is that it does not have detailed information regarding Emily's disability, and it does not have an objective motor competence test (e.g., TGMD-3; Ulrich, 2013) at the start of the study. The comparison of only one child with a developmental delay and her peers is insufficient to perform statistical analyses or generalize any conclusions. However, this case study described a naturalistic, inclusive physical education environment and can serve as a starting point in which possible strengths and weaknesses might be highlighted. It can inform future research by pointing out key aspects of learning in an inclusive physical education setting. In particular, a more in-depth analysis of the developmental appropriateness of tasks for Emily might help us understand how to shape future instruction. Since it has been stated that 75-80% is an optimal rate for success (Brophy & Good, 1986), the percentage of correct skill trials that Emily achieved indicates that extra effort needs to be made to increase Emily's learning process. Future work might focus on teaching in smaller progressions, which implies adapting instruction and equipment to meet the needs of children with disabilities and increase their correct performance of skill trials.

Conclusion

This study found lower values for Emily compared to her typically developing peers for both physical activity and skill trials (skill trials per minute and percentage correct skill trials). Although the LIRSPE ratio is above three, reflecting the effort of the physical education teacher to include all children, it cannot be concluded that this setting was a highly inclusive environment. In future studies, the interactions between children with disabilities and their peers and teachers should be studied. Specific teacher training, emphasizing these interactions and proper adaptations are recommended.

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PHYSICAL ACTIVITY

Effects of a Peer-Assisted Physical Activity Program on Depression and Anxiety in College Students

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Abstract

Physical activity is well-known to have a plethora of positive physiological, psychological, and sociological benefits. However, many college students do not meet the physical activity guidelines for Americans. In addition, depression and anxiety rates among college students have continued to rise. The purpose of this study was to examine the effects of a peer-assisted, self-selected physical activity program on depression and anxiety in college students. In-depth interviews were conducted with three program participants, six physical activity buddies, and three referring healthcare providers. Results showed significant benefits for everyone involved in the program. Program participants experienced reduced depression and anxiety, as well as increases in exercise self-efficacy and competence. The mechanism found to be primarily responsible for changes was the combination of physical activity and relatedness, and other mechanisms included routine, nature, and other lifestyle changes. Results illuminate a cost-effective way to address rising depression and anxiety rates in college students.

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Introduction

Depression is a common mental disorder, affecting an estimated 5% of adults globally (WHO, 2023). Depression is more than passing feelings of sadness or disappointment; symptoms include experiencing signs and symptoms most of the day, nearly every day, for at least two weeks, such as feelings of hopelessness, worthlessness, irritability, loss of interest, physical aches or pains, and thoughts of death or suicide (NIMH, 2023b). They may affect concentration, thoughts, mood, appetite, weight, energy levels, and sleep patterns (WHO, 2023). The symptoms of depression can range in intensity with varying effects and consequences, including impaired functioning in relationships, early termination of education, unemployment or underemployment, and substantially lower income (Kessler, 2012). Depressed individuals also have significantly decreased lifespans, up to 14 to 32 years earlier than the general population (Kessler, 2012; Kessler et al., 2003). Depression rates continue to rise, impacting an estimated 280 million people in the world, and it is about 50% more common among cisgender women than among cisgender men (WHO, 2023), and higher levels of depression for transgender and gender nonconforming college individuals (Borgogna et al., 2018). The economic burden of depression shouldered on the public was estimated to cost $326 billion in 2018 (Greenberg et al., 2021) due to direct medical, psychological, and pharmacological costs (Greenberg et al., 2003; Greenberg et al., 2015; Greenberg et al., 2021).

Another factor influencing the devastation and rising cost of depression is the high likelihood of comorbidity with other medical and psychological conditions (Gold et al., 2020; Greenberg et al., 2003). Depression is a greater predictor of overall poor health than many other chronic conditions (Moussavi et al., 2007). In addition to the high co-occurrence of depression and chronic physical health conditions, there is also a high comorbidity of depression with other mental health disorders, including mood, impulse control, substance use, and anxiety disorders (Gadermann et al., 2012; Kessler et al., 2005).

Anxiety disorders are the most common mental illness in the United States, affecting 40 million adults (19.1% of the population) age 18 and older every year (ADAA, 2022). Anxiety can range from occasional feelings of anxiousness to long-term debilitating anxiety.

Anxiety disorders are a group of mental disorders characterized by anxiety and fear (Konnopka & König, 2020). An anxiety disorder is persistent, overwhelming, and perceived as uncontrollable; it may affect mood, thought, and behavior and may cause physiological changes (NIMH, 2023a). Further, anxiety disorders often include excessive or irrational feelings of dread or unmanageable fear, which can have a negative effect on daily activities (NIMH, 2023a). The individual burden of anxiety disorders includes impairments in physical, emotional, social, and workplace functioning, as well as a significant reduction in overall quality of life (Hoffman et al., 2008). Anxiety disorders are associated with a significant increase in healthcare costs (Konnopka & König, 2020).

Young adults entering college are at increased risk for serious psychological distress as they undergo several developmental changes and face new challenges, such as living on their own, managing finances, developing individual identity, and navigating relationship issues (Shally-Jensen, 2013). In the 2022 executive summary of the ACHA NCHA III, results showed 51.7% of college students had moderate psychological distress, 23.3% had serious psychological distress, 48.1% were assessed as negative for loneliness, 27.6% had a positive suicidal screening, and 29.5% rated their overall level of stress as high (ACHA, 2022). Data from 190,907 college students seeking mental health treatment at 180 college and university counseling centers across the U.S. showed that 42.6% of students attended counseling for mental health concerns (before or after starting college), 22.7% used medication for mental health concerns (before or after starting college), and 39.7% seriously considered suicide within the last one to five years (CCMH, 2023). Mental health disorders may cause a decrease in academic performance, an increase in early termination of college, as well as a negative impact on lifetime employment and financial success (ACHA, 2022; Kessler, 2012). Among the most prevalent mental health concerns for college students are anxiety and depression. In the 2022 executive summary of the ACHA NCHA III, 34.6% of college students reported ever being diagnosed with anxiety, 26.9% reported ever being diagnosed with depression, and 23% of students reported ever being diagnosed with both (ACHA, 2022).

High rates of college student depression and anxiety illuminate the necessity for mental health services and prevention programs (Duffy et al., 2019; Shally-Jensen, 2013), and as these rates continue to rise, campus health centers are often overburdened and not able to provide sufficient services (CCMH, 2023; Kirsch et al., 2014; Shally-Jensen, 2013). College health centers often limit individual counseling sessions, such as six sessions per student (Kirsch et al., 2014; Shally-Jensen, 2013) and refer students to community resources to help alleviate some of the burden (Shally-Jensen, 2013).

Treatments for depression and anxiety, such as psychotherapy, medication, brain stimulation therapies, and support groups, can be effective for managing symptoms, and often a combination of treatments is used (ADAA, 2022, NIMH 2023a, NIMH 2023b). However, some treatments have side effects or are unavailable through university counseling centers. Interventions to increase treatment options for anxiety and depression are needed on university campuses (Duffy et al., 2019; Kessler et al., 2005).

One alternative treatment with increasing support and efficacy for reducing depression and anxiety is exercise, which can be an effective adjunct as well as an alternative to traditional treatment (Cai, 2000; Craft, 2005; Kvam et al., 2016). Compared to traditional treatment, exercise does not carry the same risk of side effects, is affordable, does not require doctor's visits, and can be utilized within the chosen time frame of the participant (Daley, 2008). Findings from a meta-analysis showed that exercise can have a moderate to large effect on depression, and exercise is comparable to psychotherapy and antidepressants for depression (Kvam et al., 2016). Related to anxiety, findings from a systematic review and analysis found that exercise could be a useful, affordable, accessible treatment for anxiety; however, lack of data from rigorous, methodologically sound randomized clinical trials precludes any definitive conclusions about its effectiveness (Stonerock et al., 2015). Various types and intensities of exercise have shown to be effective in reducing depression and anxiety (Stanton & Raeburn, 2014). Although exercise has been shown to be effective in the reduction of depression and anxiety, as well as improving overall health, exercise adherence often remains elusive. Data from the 2020 National Health Interview Survey (NHIS) showed that only 24.2% of adults in the United States met the

physical activity guidelines for aerobic physical activity and muscle-strengthening activity for Americans (CDC, 2022). In addition, the ACHA NCHA III results showed that only 42.9% of college students met the physical activity guidelines for "Active Adults" (meeting the recommendation for aerobic activity and strength training; ACHA, 2022). Beginning and adhering to a consistent exercise program is challenging; 50% of people who begin an exercise program drop out within the first six months (Dishman, 1982). Specifically related to college students, results from one study showed that in a four-month period, without an intervention, 40% of students were found to either decrease their regularity or stop their exercise programs (Keeler et al., 2013). Populations struggling with anxiety and depression may also be at increased risk for failing to adhere to exercise programs (Martin et al., 2005; Sabourin et al., 2011). Some mechanisms that have been shown to be beneficial for exercise adherence include enhancing intrinsic or autonomous motivation, self-efficacy, and basic psychological needs (Edmunds et al., 2007).

Two relevant theories to exercise adherence are the self-determination theory (SDT) and self-efficacy theory. SDT is a framework for understanding behavior motivation, choices, and ambition that affirms that people are intrinsically motivated by fulfilling three basic psychological needs: competence, autonomy, and relatedness (Deci & Ryan, 2008). SDT has been extremely useful in understanding motivation in various settings and applications, including how intrinsic and autonomous motivation (i.e., self-governed) relates to long-term exercise adherence (Deci & Ryan, 2008; Teixeira et al., 2012). Self-efficacy theory also contributes to the understanding of motivation by addressing the concept that people have a strong desire to act when they believe that their actions will be effective and that they are capable of success (Bandura, 1997). Enhancing self-efficacy in exercise situations can be a valuable way to support exercise adherence (Fletcher & Banasik, 2001).

Another aspect of understanding and enhancing motivation and adherence to physical activity is the use of a peer assistant, a knowledgeable guide, an ally, and a role model (Mead et al., 2001). Peer relationships are related to positive health outcomes in general, and the peer-assistance model for increasing physical activity has been shown to be beneficial (Smith, 2003), especially in young adults (Fuhr

et al., 2014). Similar to the relatedness aspect of SDT, peer assistance fosters a sense of connection and an ability to identify with another human being. Social engagement has been shown to be directly related to increasing intrinsic motivation, exercise participation, and adherence (Teixeira et al., 2012). In addition to the benefits for the participant in a peer-assistance relationship, research has shown that the peer-assistant also receives benefits by helping to develop social responsibility and the ability to support another in healing (Keeler, et al., 2021; Mead et al., 2001; Rieck et al., 2012). Specifically, in a physical activity program for college students' depression, Stroud et al. found that peer assistants grew professionally, personally, and interpersonally as a result of participation, and an SDT framework could conceptualize that growth.

With rising rates of depression and anxiety in college students, alternative treatment options need to be researched and developed to alleviate the overburdened resources and impacted counseling services. There is a growing need for effective, affordable, and easily implementable programs to provide support to the vulnerable populations of students experiencing depression and anxiety. A peer-led physical activity intervention for college students has been implemented on multiple campuses; preliminary research from these interventions has shown improvements in mental health and physical activity factors (Keeler et al., 2021; Rieck et al., 2012). However, the mechanisms by which the program is effective from the perspectives of the social agents involved (peers and mental health providers) and participants have not yet been explored qualitatively. Therefore, the purpose of this study was to examine the effects of a peer-assisted, self-selected physical activity program on depression and anxiety of program participants at a four-year university and to explore the various possible mechanisms by which depression and anxiety were affected. A secondary purpose was to examine the benefits of participation for the physical activity buddies. It was hypothesized that program participants in the peer-supported, self-selected physical activity program would experience a decrease in depression and anxiety from the beginning to the end of the program. Additionally, it was hypothesized that the program would be beneficial for the physical activity buddies providing peer support.

Methods

Participants

There were 12 total participants in this study, including program participants (PPs), physical activity buddies (PABs), and healthcare providers (HCPs). PPs were three students who participated in the program. Students were eligible to participate in the study if they met the following criteria: 1) were referred to a peer-assisted, self-selected physical activity program from a university health care provider for anxiety and/or depression; 2) had no injuries limiting participation in physical activity at least two hours a week; and 3) were at least 18 years of age. The PABs were six students who supported the PPs and were required to complete training and readings and pass a competency exam before being matched with PPs. Three referring professional campus HCPs who referred PPs were also involved in this study. All participants in this study provided written informed consent before participation in accordance with the University Institutional Review Board.

Study Design and Procedures

The qualitative study design included semi-structured interviews, which allowed for probing follow-up questions that were conducted to gather data to analyze and uncover themes on the effects of a self-selected peer-assisted physical activity program on depression and anxiety of college students. Questions for the interviews were designed by the research team to uncover and illuminate the participants' perceptions in the study. The questions were generally structured to be broad, open-ended, and conversational, which has been shown to be most appropriate for seeking "to understand the context of a health problem" (Lewis, 2015, p. 474). This type of questioning was intentional to gain an overall sense of the PPs' experiences of how their depression and anxiety may have changed during their involvement, to understand the PABs' experiences of participating, and to discover the referring HCPs' perception of the overall effectiveness of the intervention. The questions were designed with the intent to understand the various mechanisms that helped alleviate depression and anxiety, which included self-efficacy and the three basic psychological needs of the self-determination theory: compe-

tence, autonomy, and relatedness (Deci & Ryan, 2008). The research team conducted a pilot study in the semester before the current study to test and refine interview questions for the current study.

The program coordinator met with all PPs and PABs individually to determine the best matches; matches were based on the preferences of PPs (e.g., gender), goals, and interests (e.g., a PP who wanted to try running and prepare to run a 5K was matched with a PAB who enjoys running), and personality. Once matched, the PP and PAB pairs engaged in self-selected one-hour physical activity sessions twice a week for a 10- to 12-week intervention. Research has shown support for the benefits of exercising three or more times per week (Stanton & Raeburn, 2014); however, students with depression and/or anxiety in this program have had high adherence rates when scheduled for only two days per week (Keeler et al., 2021). At the end of the program, PPs, PABs, and HCPs were asked to volunteer to participate in the interviews. The principal investigator conducted and recorded each interview in a private room and then transcribed verbatim.

Data Analysis

After the primary researcher transcribed the interviews, the data were analyzed using the professional research software Atlas.ti (Hwang, 2008) to help uncover and systematically analyze complex phenomena hidden in unstructured data. This program provides tools to help locate relevant topics and themes, weigh their importance, and provide a visualization of the complex relationships between the themes. Along with Altas.ti, the process of constant comparison was used. Constant comparison is a coherent, systematic, inclusive approach to comparing each item and adding categories and themes (Pope et al., 2000). Also, deductive and inductive data analysis were used as some of the themes were previously expected to emerge in the analysis (deductive analysis), and several themes were inductively obtained as they gradually emerged from the data (Pope et al., 2000).

Results

Effectiveness of the Intervention: Changes in Depression and Anxiety

The intervention was shown to be effective in reducing depression and anxiety, as all interviewed PPs reported improvement in their symptoms. In addition, all PABs and HCPs noticed direct changes in the moods and behaviors of the PPs with whom they came into contact while the PPs were involved in the program. The reduction in depression and anxiety symptoms was reported by PPs on both acute (immediately after exercising) and chronic (over the duration of the program) time points. Participants in all three groups reported the acute effects and benefits of the program. One PAB reported, "Afterwards we just would both be in a better mood… it was cool to see… how we were before and after, and comparing that." Another PAB noticed that after exercise sessions, his buddies often "seemed happy… and they seemed fulfilled, they seemed like they accomplished something."

Regarding chronic changes over time, participants from all three groups also reported significant differences in the PPs. One PP stated that she noticed both her anxiety and depression "went down a significant amount" and she added, "I don't feel anxiety when I go out anymore." When asked if she believed these changes were due to the program or other factors she said, "it's because of the program 'cause I haven't changed much else since I started." Another PP reported that "my depression decreased to the point where I went off the antidepressants that I was taking" and also attributed her success to the program. One PAB stated, "I noticed a big difference from the start to the end… they [the PPs] have just been more positive, saying more positive things, talking good about themselves." This PAB continued to say that not only did he observe changes, but the PPs he worked with also voiced that they felt better on several occasions. Another PAB described the program overall as "extremely beneficial" and that one PP shared with her "how exercise has been really helping her feel more excitement about getting out of the house and doing more things" and that this led to "the improvement of her depression symptoms." One HCP reported that she found the program was beneficial for students by saying that, "it was clear that they [the

PPs] felt better physically, mentally, emotionally." Another HCP said that she received direct feedback from a PP about "how great the program was and [that she] wanted to do it again."

Another common response as to which mechanism was most beneficial was physical activity. One PP shared that she believed the physical activity itself had the most significant influence on the reduction in her depression symptoms, stating, "I just do much better when I'm exercising on a regular basis. In terms of staving off depression and I just feel better physically and I feel better emotionally and its fun and it helps me have a relationship." However, she continued that, "I wouldn't have done the exercise if I didn't have a [physical activity] buddy."

Themes and Mechanisms

Relatedness/Peer and Companionship Support

Relatedness, also described as peer support, was the most common response participants from each of the three groups gave when asked about which aspect they believed to be most beneficial; however, the majority of responses cited the combination of both relatedness/peer support and physical activity together. Five of the six PABs reported relatedness or human connection first when asked what they believed to be the most beneficial elements, using phrases such as, "the partner relationship is the most important aspect" and "social interaction" and "the most beneficial part of it was for her to have a friend that she could talk to… someone who could listen… that isn't a therapist, that isn't her mom."

Participants from the three groups discussed the combination of physical activity and relatedness. Several participants reported that it was easier to talk and form a deeper connection while being physically active; this was especially true for pairs who walked together (compared to reports of pairs who exercised in the gym, for example). Participants spoke of how the physical activity enhanced their sense of connection and how having someone to exercise with motivated them to be active. When asked which aspect(s) she believed to be most beneficial, one PP shared, "Well, the working out, in itself. And then, also having someone to work out with, so then you're not alone, especially like on a day that if you were feeling depressed or had anxiety, it was nice to have someone there with

you to do something else other than think about the depression or anxiety. I think having the buddy was the biggest [factor]." Another PP said, "It was really nice to be able to workout and have somebody to talk to about stuff." PABs also noticed how well exercise and human connection worked together and that it was difficult to isolate the benefits of one from the other. One PAB said, "It's hard to know how much [benefit] is associated with the exercise and how much is associated with the time that we have had together" and that, "I think that on a psychological somatic level, the ability to be moving, that brings up past memories, that brings up past experiences, and so the combination of walking and talking was probably the most beneficial thing."

Self-Efficacy/Competence

Another theme that participants from each of the three groups indicated as beneficial in reducing depression and anxiety for PPs was self-efficacy or competence. PABs also reported they noticed PPs' self-efficacy and competence improved over the course of the program, and as those levels increased, the PPs seemed to feel better overall. One HCP said, "They [the PPs] felt accomplished. They did it. They signed up for a task. And they were able to do the task and they completed the task." All the PABs spoke about their PPs' increasing self-efficacy and competence. One PAB shared, "at the beginning of the program it [self-efficacy] was like nonexistent, because she didn't even bother to try… but towards the end she told me, 'my confidence is so much better!'" Another PAB shared about his experience with a PP that "we did a plank, and she's never done a plank before…. [and] that one time made her excited for the rest… and we just kept improving and improving and showing [her] that [she] can do stuff, when [she didn't] realize it." The PAB continued, "I know now she feels way more comfortable, like if I'll say, 'we're going to do dumbbell press,' she knows exactly what to do, and she says, 'I got this!'… her confidence shot up." Another PAB reported that "she [the PP] got comfortable enough with me to try new things and she realized that she could do more," and that in the beginning of the program, "she really felt like she couldn't exercise or she couldn't do some of the things… toward the end she told me, 'my confidence is so much better'… and [she was] proud of any accomplishment that she made." Another PAB shared the following after his PP showed

clear improvement from the start of the program, " I was stoked and she was stoked, and obviously it was such an awesome moment!" The same PAB also reported that while he believed social interaction was the most beneficial element, "building that confidence and comfortability in exercise environments" was the second most beneficial for his Pp. One PP, who had very little self-efficacy for exercise in the beginning of the program, said, "Definitely, when we first started she [the PAB] would say, 'Oh, let's try this exercise' and in my head I was like, 'No way can I do that! I'm not strong enough!' But, I was able to do it! So, I think that, yes, I was able to do things that I had no idea that I could. And it was awesome!"

Structure is also a main component at increasing competence need satisfaction and was another beneficial mechanism highlighted by the HCPs, PPs, and PABs. All the HCPs spoke to the importance of routine or structure in helping students with depression and/or anxiety. One HCP said that she thought the most beneficial aspect "was the structure. It was a simple task with steps that they [PPs] could follow it, wasn't complex or complicated… they really appreciated the consistency of it… The consistency and routine is helpful." Another HCP spoke to the benefit of having a "routine established" while another said, according to direct feedback she received from a PP, the most beneficial aspect was "the commitment of meeting with someone and the social thing of having someone that they were going to meet with… was really helpful." PPs also found routine beneficial, not only in the consistency of meeting up regularly, but also building familiarity with exercise consistency, with one PP sharing, "we tried to stick to a similar routine every time when we met in the gym. And I liked that a lot." In regard to the benefit of being consistent, one PAB said, we "would go into a regular routine: lower body, upper body, back, & also cardio…. it only takes a little bit of time to get yourself better overall, over time."

Autonomy and Self-Selected Activity

When asked about the importance of being able to self-select their modes of physical activity, there were various feelings about the level of importance of autonomy from PPs; however, both HCPs and PABs recognized the importance of fostering autonomy in their PPs. While one PP said autonomy was "pretty important" and "I really loved that I was able to choose my own [physical activity]", the

other PPs preferred to have their PABs select and guide the physical activity sessions. One PP said, "it wasn't that important to me because I didn't know where to start. I like that she [the PAB] took the lead," and that if there was something she wasn't interested in trying, she would let her PAB know and they could choose another activity. Another PP said, "It wasn't that important to me. I'd rather have them choose."

PABs felt more strongly about the importance of autonomy. When asked which aspects worked well in the program, one PAB said, "I think just the fact that we… had the freedom to choose different activities." Another PAB who was paired with a PP who asked the PAB for activity ideas said, "I would give them [PPs] options, like, 'so we're going to do a leg workout, which leg workout would you like to try?' and they would pick. I figured having them decide within a parameter was easier for them than just saying, "What do you want to do now?"

Other Factors to Consider

While the initial scope of this study sought to examine the above themes as mechanisms for helping to reduce depression and anxiety, several additional themes were uncovered through the interviews. These themes included nature, routine or consistency, and healthier lifestyle changes.

Nature

While PPs and PABs had the option of participating in physical activities indoors and/or outdoors, several participants brought up the importance of exercising in nature in their interviews. One PP said that being in "the outdoors here, in the beautiful nature," was the most beneficial aspect for her after the physical activity. One HCP spoke to the importance of "outside activities." One PAB shared that she and her PP gained benefits by "going on forest runs and running around the track." Another PAB said, "green exercise or exercising outside is something that is really a beneficial part."

Holistic Health

Participants from each of the three groups reported that throughout the program, PPs adopted healthier lifestyle habits in other areas of their lives in addition to being more physically active. HCPs,

PABs, and PPs all believed that as PPs began reducing their depression and anxiety, they were able to make healthier choices regarding several other aspects of their lives, such as diet, living circumstances, and relationships. One HCP shared, "Once they were treating their bodies better, that also affected the way they wanted to care for their bodies, like what they wanted to eat, so I think that helps in the relationship like, 'Ok, this is how my body feels when I take care of it and I also want to feed it healthier things.'" Although PABs were trained in a non-weight/diet approach to exercise, two of them commented on the PP's dietary behavior. One PAB said that her PP "just decided to move out of her current place, because she doesn't like the living situation" and followed up that she believed the program had an effect on that decision by saying, "being able to talk about it, and just the physical activity benefits too, I feel like it keeps you level-headed a little bit." Some additional insights from PABs about their PPs included, "she cleaned up her diet, too, during this program" and that another PP became "more conscious about diet" and increased her "awareness of lifestyle."

Altruism and Empathy

In addition to the effects and benefits for the PPs, there were benefits reported for the PABs. The main recurring theme of benefit for PABs included positive feelings of being of service and assisting in beneficial changes for another. One PAB said that his experience in the program was excellent because "just being able to be an effective outlet for somebody else to make changes in their life that are going to benefit them… that's what made it a great experience for me… I can't say anything bad about my experience." Another PAB spoke to how "doing something selfless, it was rewarding" and continued that working out with people in this way would "be something that I'd like to do in my career."

Other benefits of the PABs were the development of empathy and compassion. One PAB said the program "impacted my life a lot. It showed me who I am trying to show up to be" and that the program helped her in "learning how to be more patient, refined, understanding, have more open communication with people." Another PAB reported, "I'm a lot more understanding… I'm definitely going to try a lot more, even if people are kind of quiet or something, I'm more likely to probably go out of my way." Several PABs reported

that the program was beneficial in increasing their communication skills. One PAB said the program "helped my people skills and communication and listening skills" while another said that he learned to "have compassion and heart… to have an open ear, [to be an] active listener." Another PAB said, "I learned that it's something [depression and anxiety] that most of us can relate to, and that most of us are working through similar issues on different levels" and she continued that she learned "the power of showing up and holding space for other people to show up."

Additional factors that benefitted the PABs included increased time management skills, accountability, and increased physical activity. One PAB said the program "definitely taught me time management." Another PAB said, "The accountability thing is awesome because it works both ways. It's like I feel just as responsible to exercise because now I have a responsibility to them [PPs]."

Discussion

This study provides additional qualitative evidence for the effectiveness of a peer-supported, self-selected physical activity program for college students with depression and anxiety. Additionally, this study uncovered possible mechanisms that provided the most benefit for students with depression and/or anxiety from multiple lenses of participant, peer assistant, and medical provider. Participation in this program was shown to benefit not only the PPs but also the PABs who supported them, which is consistent with previous literature (Keeler et al., 2021; Leenstra et al., 2019) and provides evidence that a program such as this one may provide a cost-effective resource to supplement the resources offered by overburdened campus health care centers.

Changes in Depression and Anxiety

It was hypothesized that PPs in the peer-supported, self-selected physical activity program would experience a decrease in depression and anxiety. This hypothesis was supported as results showed that participants from the three groups found the intervention to have significantly beneficial psychological effects for the PPs. All PPs reported that the intervention had a significant effect on reducing their depression and/or anxiety, both acutely immediately after exercise sessions as well as chronically over the duration of the semester; this

was consistent with previous campus exercises for depression programs (Keeler et al., 2021; McFadden et al., 2017; Rieck et al., 2012).

Themes and Mechanisms

The changes in depression and anxiety and the improvement in overall mood were due to many overlapping factors and mechanisms that are discussed in further detail below. Based on the theoretical background of this program, the researchers expected the results would support the deductive themes outlined, including peer-support/relatedness, physical activity, self-efficacy/competence, and autonomy or the ability to self-select physical activity. Results showed support for all these themes.

Peer-Support, Relatedness, and Physical Activity

Throughout the data analysis, one theme that continued to be discussed with potency and significant effectiveness was the combination of human connection with physical activity. Based on previous research, it was expected that both relatedness and physical activity would be uncovered individually as significantly beneficial mechanisms; however, the compound effectiveness of the two together was surprising to the participants and, therefore, of particular interest to the research team. It has been well documented that peer support is an effective element in increasing intrinsic motivation (Deci & Ryan, 2008), and the results from this study add to the growing field of research about the use of peer support for depression and anxiety, especially in college students (Basudan et al., 2017). Additionally, previous research has shown that in-person interactions, including the combination of physical activity and with counseling, are beneficial based on factors such as promoting equality within the therapeutic relationship, the change in physicality, the act of movement, and experiencing the outdoor environment (Revell & McLeod, 2016).

Self-Efficacy/Competence

Data analysis also showed support for self-efficacy and competence. PPs, PABs, and HCPs all reported significant changes in PPs regarding self-efficacy for exercise, competence, and overall increases in self-confidence. As the PPs gained self-efficacy for exercise, they also improved their overall self-confidence. The research team anticipated that self-efficacy for exercise would be beneficial

for reducing depression and anxiety, as previous research on self-efficacy in college students has shown similar results (Ryan, 2008). The self-efficacy mechanism was responsible for how PPs perceived themselves and cared for themselves, including improved social interactions and a healthier diet.

Autonomy and Self-Selected Activity

Some participants found autonomy, or the ability to self-select their mode of physical activity to be "very important," whereas other PPs preferred to have their PABs select and lead the physical activities. Even with the mixed support shown for selecting the exercise type, autonomy may also include the selection of where and when the activities took place and the intensity levels during the sessions; therefore, autonomy is still a foundational element of the intervention upon which the effectiveness partially rests. The data analysis affirmed that although some PPs preferred to have their PABs select and lead the activity, ultimately, what remains important is that each pair (PP and PAB) could work together to create their desired physical activities. Previous research has shown autonomy to be an integral aspect in fostering high-quality intrinsic motivation (Deci & Ryan, 2008), so although the choice of type of physical activity did not support autonomy as a mechanism for reducing depression and anxiety in the current study for all PPs, its importance in the program should not be overlooked. Further research is recommended to uncover how the ability to self-select physical activity may affect individuals with depression and anxiety directly and the other various aspects of the program the PPs may make decisions about, such as location and intensity.

Other Factors to Consider

In addition to these deductive themes, support was also found for inductive themes uncovered through analysis, including nature, routine, and additional lifestyle changes. There is a growing body of research on "green exercise" and the benefits of exercising in nature to reduce depression and anxiety (Gladwell et al., 2013) and to affect the mental health of college students specifically (Olafsdottir et al., 2017). The area in which this program is implemented offers many opportunities for green exercise, as the majority of the county is forestlands and recreational areas. Additional beneficial effects for

PPs in the program, including being able to limit antidepressant use, more positive self-talk, healthier eating habits, being more social, and moving out of undesirable living conditions were not directly hypothesized. However, these findings are congruent with and add to the body of research that shows that as individuals reduce their depression and anxiety, they may improve their overall quality of life in many sectors (Olatunji et al., 2007). These changes were due to the reduction in the PPs' depression and anxiety and are tangible effects of the intervention.

Benefits for the Physical Activity Buddy

There was evidence for the hypothesis that the program would benefit PABs by providing peer support. PABs gained confidence in communication skills and working with others and improved their time management skills and exercise adherence. The most striking benefit the PABs reported was their increased compassion and understanding of the power of human connection. Although the PABs anticipated that participation in the intervention would be enjoyable, they were often surprised or taken aback by how impactful and transformational their experience was in terms of being of service to others. These themes were consistent with previous findings in a similar study that peers in the program grew personally, interpersonally, and professionally (Leenstra et al., 2019). There is a growing body of research on altruism and being of service facilitating health and well-being (Post, 2005), and the present study supports this hypothesis by revealing how the PABs benefited significantly by supporting others. Additionally, the eudaimonic approach to understanding happiness helps explain why the PABs may have received more benefits than anticipated. This approach focuses on the development of meaning and self-realization as a means to wellness (Ryan & Deci, 2001) and explains that as the PABs provided peer assistance, they were creating benefits for themselves by being of service to another.

Considerations for Health Care Centers

All three HCPs referred several PPs to the program; however, there was a wide range in the amount of direct feedback or ongoing interaction HCPs had with PPs. One HCP, a counselor, had continuous sessions and interactions with several PPs that she referred to the program. This HCP was able to observe significant changes

in the PPs and received direct feedback about their experiences in the program. Of the other two HCPs, one had very little follow-up contact with the PPs she referred, only getting direct feedback from one PP. This example signifies the direct effect of the overburdened healthcare centers that do not have the resources for HCPs to follow up with students and provide the ongoing care students may need. All of the HCPs spoke of the rising rates of depression and anxiety and their limited abilities to be able to provide services to students in need. The HCPs expressed gratitude for the program, stating the rising prevalence of anxiety and depression and the increasing quantity of medications they prescribed.

Limitations and Future Research Recommendations

Although this study shows promise, there are several limitations and recommendations for further research to understand how the present findings may be applied to a wider population. One limitation of this study was the small sample size. A relatively small sample population is common in qualitative research as the aim is to gain a deep understanding of phenomena focusing on the meaning of a particular issue. The aim is not to collect large amounts of data but to gather the in-depth lived experiences of enough individuals to glean common themes and to understand the relationships between those themes (Charmaz, 2006), which occurred in this study. Although the sample was small, we believe that saturation was achieved.

Another limitation of the present study is that while all PABs participated in the interviews, not all PPs and HCPs who were part of the program were interviewed. The PPs and HCPs volunteered to participate in the study, and therefore, individuals who felt the program was especially beneficial may have been more likely to respond to e-mail requests to participate. This may have limited the findings because the research team did not have the opportunity to interview participants who may have felt indifferent about either the program or the task of being interviewed.

This study does not include a review of longer-term or ongoing effects. The recommendation for future research would be to conduct a longitudinal research study to gain a greater understanding of the impact of the intervention on the PPs' lives moving beyond the immediate time they participated in the program.

Practical Implications

Although there are limitations to this study, the results showed significant effects for all PPs, PABs, and HCPs and highlighted that this type of cost-effective program has been beneficial on multiple campuses (Keeler et al., 2021; Rieck et al., 2012) and potentially could benefit students if implemented by other universities nationwide. Results from this study showed the benefits of a program that addresses rising mental health disturbances and is effective, affordable, and practical to implement. All of the HCPs interviewed for this study found the intervention to be significantly beneficial and wished that the program was more extensive to help more of the students they serve.

Conclusion

The years young adults spend on college campuses can be a challenging period in which they have increased susceptibility to mental health problems such as depression and anxiety. However, these years are also ripe with the potential to help students develop beneficial behaviors to facilitate their mental and physical health. The present study supported the effectiveness of a program that reduced depression and anxiety and uncovered the mechanisms that facilitated these changes, which included the combination of relatedness/peer support and physical activity, self-efficacy and competence, and other factors. In addition, results showed the theme of altruism, or being of service and helping others, produced significantly beneficial effects in the lives of the students who provided peer support for individuals with depression and/or anxiety. Therefore, the findings of this qualitative study demonstrated the effectiveness and the beneficial mechanisms of a peer-assisted, self-selected physical activity program on depression and anxiety in college students.

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Appendices

Participants from all three groups were told that all questions were to be answered on a voluntary basis and they were free to pass on any questions they did not wish to answer. They were also instructed to not identify other participants by name.

Appendix A: Interview Questions for Participants

1. Overall, how would you rate the quality of your experience in the WellFit Program? On a scale of 1 (poor) to 5 (excellent). Explain your rating above.
2. What worked well for you during the WellFit Program?
3. What about the program did not work for you, and/or what could be done to improve your experience?

4. Please rate the quality of your physical activity buddy in the following areas: On a scale of 1 (poor) to 5 (excellent) and please feel free to share your reasoning about any of these scores: Knowledge of physical activities. Understanding of your thoughts, feelings, and experiences. Availability. Approachability. Compassion.
5. How did the WellFit Program impact your life overall?
6. Did your anxiety and/or depression change over the course of the WellFit Program?
   a. If so, how much? What factor/s do you think had the biggest effect?
7. Did your physical activity levels increase during the WellFit Program?
   a. Do you think you will continue to be physically active after the WellFit Program?
8. Has your knowledge about exercise and/or comfort levels participating in physical activities changed throughout the WellFit Program? Please explain.
9. How important was it to be able to choose and select your own physical activities and why?
10. Were there any ongoing themes or recurring topics or ideas that came up for you over the course of the WellFit Program?
11. Please share any additional information you would like to add.

Appendix B: Interview Questions for Physical Activity Buddies

1. Why did you sign up to participate in the WellFit Program?
2. Describe your overall experience of participating in the WellFit Program.
   a. What are some aspects that worked well for you?
   b. What are some things that did not work well for you?
3. At the beginning of the WellFit Program, how much self-efficacy with physical activity and/or experience with exercise did your participants have? (Self-efficacy can be defined as the belief that an individual can successfully perform a specific behavior or task)
   a. Do you think their self-efficacy and/or knowledge of physical activities changed throughout the WellFit Program? If so, in what ways?
4. Did any of your participants talk with you about their anxiety or depression?

a. If so, what did they share?
5. Do you think this program was beneficial for your participants?
   a. If so, how beneficial? What do you think were the most beneficial aspects?
6. Did you notice any changes (e.g., physical, emotional, psychological) in your participants over the course of the WellFit Program (not already mentioned above)?
7. How did the WellFit Program impact your life?
8. What did you learn or gain from this experience and did you learn anything unexpected? Please explain.
9. What did you learn about working with people with depression and anxiety?
10. Did you have any prior experience in your life (either in yourself or friends/family) with anxiety and/or depression?
11. Overall, how would you rate the quality of your experience in the WellFit Program? On a scale of 1 (poor) to 5 (excellent). Explain your rating above.
12. What could be done to improve the WellFit Program not already discussed?
13. Were there any ongoing themes or recurring topics or ideas that came up for you over the course of the WellFit Program?
14. Please share any additional information you would like to add.

APPENDIX C: Interview Questions for Health Care Providers

1. How many students did you refer to participate in the WellFit Program?
2. What were the main reasons/motivations/criteria for referring those students to the WellFit Program?
3. Describe your overall sense of the experience of the program for the participants.
   a. What do you think worked well for them? What do you think did not work well for them?
4. Do you think this program was beneficial for the participants in reducing depression and/or anxiety? If so, how beneficial?
5. Which aspects do you think were the most beneficial (e.g. self-efficacy, autonomy, competence, relatedness)?
6. Did you notice any changes (e.g., physical, emotional, psychological) in the participants that you think was likely directly related to the WellFit Program (not already mentioned above)?

7. Overall, how would you rate the quality of the experience in the WellFit Program for the participants? On a scale of 1 (poor) to 5 (excellent). Explain your rating above.
8. How likely would you be to refer students to the WellFit Program in the future? On a scale of 1 (not at all) to 5 (very likely)
9. In your professional opinion, what could be done to improve the WellFit Program (not already discussed in your responses above)?
10. Were there any ongoing themes or recurring topics or ideas that came up for your patients over the course of the WellFit Program?
11. Please share any additional information you would like to add.

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YOU AND THE LAW

Rugby Player Found Negligent for a Dangerous Tackle

Dani Laura Chelsea Czemuszka (Nee Watts)
v. Natasha Mercedes King
[2023] EWHC 380 (KB)
Case No: QB-2020-003394

Thomas H. Sawyer and Tonya L. Sawyer

Introduction[1]

On 23 February 2023, a female rugby player won a landmark High Court case against a fellow player after she was left paralyzed following a dangerous tackle. The parties were playing rugby union at developmental level. The tackle occurred as the Plaintiff (Dani Czernuszka), who was playing scrum-half at the back of a ruck, bent down to pick up the ball. Before the Plaintiff had picked up the ball and while she was in a vulnerable position with her neck and spine exposed, the angry and emotional Defendant (Natasha King) put her

[1] Rugby is a popular sport for women in the United Kingdom and is growing rapidly in the United States which makes this case very important for females playing rugby in the US. Coaches and players need to pay close attention to the outcome of this case.

Thomas H. Sawyer, Ed.D., Emeritus Professor, Kinesiology, Recreation and Sport, Indiana State University; Tonya L. Sawyer, Ph.D., Chair, Department of Business and Leadership, Assistant Professor and Coordinator of Sport Management Programs, Saint Mary-of-the-Woods College.

bodyweight forward and down onto the Plaintiff, forcing her onto the ground with her back bent, fracturing her spine.

Claim

Plaintiff claimed damages in negligence from the Defendant (King) on the basis that Defendant failed to exercise such a degree of care as was appropriate in all the circumstances. Plaintiff alleged that the Defendant had a choice whether to proceed with the tackle or to desist and in proceeding with it, she breached her duty of care towards Plaintiff.

Background

On 8 October 2017, Plaintiff was paralyzed from the waist down after she was the victim of a dangerous and reckless tackle by angry Defendant, during a development level rugby match between her team Reading Sirens and Bracknell Ladies. Defendant, who was not penalized by the match referee for the tackle, denied that the tackle was dangerous and reckless, and stated that by playing the match, Plaintiff impliedly consented to the risk of injury.

Judgment

The Judge in this case, felt the Defendant should have modified her conduct because it was or should have been apparent that the Plaintiff was treating the situation as though there was still a ruck and had adopted a stance consistent with that, namely the stance of a scrum-half bending down to pick up the ball from the scrum which made her vulnerable as she was stationary, bent over and not suspecting that tackle was coming: so much so, or should have been, obvious to the Defendant. He therefore found that in this very unusual and exceptional context, the Defendant executing a move which was not within her experience, the Defendant is liable to the Plaintiff for the injuries which the Plaintiff sustained, and the judgment shall be for the Plaintiff. The Defendant's tackle was considered to be dangerous and reckless, and she is held liable in negligence to the Plaintiff for the injuries suffered.

Risk Management Discussion

In the Judge's ruling he held that players on both sides have a duty to be mindful of each other and to play with the understanding that enjoyment and learning are the main objectives, not winning. Coaches and sport administrators have a duty to impress upon student-athletes and youth athletes this important philosophy.

Further, the Judge concluded that the tackle executed by the Defendant was a dangerous and reckless act and fell well below an acceptable standard of fair play. It was executed with reckless disregard for the Plaintiff's safety in a manner which was liable to cause injury and that the Defendant was so angry and emotional that she closed her eyes to the risk to which she was subjecting the Plaintiff to was clear and obvious. The coaches and team captains should have known of the emotional state that the Defendant was in and removed her from the game prior to the incident. Coaches need to be aware of all their players emotional states so that incidents like this one do not happen.

Instructions for Authors

The Physical Educator

Author manuscripts must be submitted online (https://js.sagamorepub.com/pe/index) and meet the following guidelines:

Manuscripts must be double spaced in Times New Roman 12-point font in a Microsoft Office Word document. Number the lines of the manuscript, including the references. Manuscripts should be 25 pages or fewer in length, including charts, graphs, graphics, pictures, and tables. Please follow APA 7th edition style guidelines consistently throughout the manuscript.

The first page of the manuscript must include the title of the article only. Do not include your name, affiliation, or other identifying information. An abstract must accompany each manuscript.

Label all charts, graphs, and tables and place them on separate pages. Submit all images 300 dpi with appropriate captions. Number the pages beginning with the title page followed by text, references, figure captions, tables, and figures. Figures must be clean and legible. Freehand art or lettering is not acceptable.

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