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METHODOLOGY

"The Stomp and Catch Was Too Easy!" Children's and Teachers' Perceptions of Inclusive High and Low Autonomy Motor Skills Instruction

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Abstract

Physical educators seek ways to motivate students to engage in lifelong physical activity. Research demonstrates that autonomy-supportive climates improve motor skills and competence in children. Although substantial research exists on the benefits of autonomy-supportive climates on children's motor skills, little is known regarding the perceptions of the teachers and the children. We implemented two instructional climates—an autonomy-supportive climate (ASC) and a teacher-centered controlled (TCC) climate, both designed for learning motor skills—and asked children and teachers about their perceptions of the instructional approaches. Twenty-four children and four teachers participated. Data were collected qualitatively through informal interviews with children, in-depth interviews with teachers, and field

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observations. All researchers engaged in inductive data analysis and triangulation. The results suggest that children preferred the ASC over the TCC, found the ASC challenging, and thought the ASC facilitated independence and choice. These findings suggest an explanation for why earlier studies found positive learning outcomes in ASC.

A broad goal for teachers in all content areas is to motivate students to become lifelong learners. Likewise, physical educators constantly seek ways to motivate students to engage in lifelong physical activity. One way to get students excited about and stay involved in physical activity is the provision of instruction in a climate that is engaging and promotes autonomy (Valentini & Rudisill, 2004a). Ames (1992) asserts that instructional settings can be organized to impact a child's motivation to learn and persist. Prior research (Valentini & Rudisill, 2004a) demonstrates that autonomy-supportive climates (ASC) improve motor skills and competence in children who are typically developing (TD) and children with developmental disabilities (DD). Additionally, ASC have been shown to have lasting effects (Valentini & Rudisill, 2004b). Indeed, learning environments characterized by controlling teachers and rewards and punishments have been found to be effective only as long as the external conditions continue (Hastie, Rudisill, & Wadsworth, 2013). Once withdrawn, those contingencies are no longer motivating to the student. Thus, the purpose of this study was to compare the perceptions of teachers and children with and without DD of two instructional climates, both delivered in an inclusive setting. One climate is student centered and autonomy supportive (ASC), and one is teacher centered and controlling (TCC). Using a phenomenological framework, we specifically asked,

- What are children's experiences of two different inclusive motivational climates, one student centered and autonomy supportive, and one teacher centered and controlling?
- What are teachers' experiences of two different inclusive motivational climates, one student centered and autonomy supportive, and one teacher centered and controlling?

Autonomy-supportive instruction is grounded in achievement goal theory, which is characterized by the constructs of achievement goals and achievement behaviors (Duda & Nicholls, 1992; Xiang,

Bruene, & McBride, 2004). Achievement goals and behaviors are broken down into two types of orientations: task and performance (Ames, 1992; Nicholls, 1989). At the ends of the spectrum, a performer with a task orientation focuses on using effort to master a task, while one with a performance orientation is ego centered with an emphasis on dominance over others (Ames, 1992; Nicholls, 1984; Xiang et al., 2004). Motivation has been shown to improve when physical activities are presented in an environment that promotes task orientation (Cury, Da Fonseca, Rufo, & Sarrazin, 2002; Duda & Nicholls, 1992; Goudas, Biddle, & Fox, 1994; Halvari, Skjesol, & Bagøien, 2011). In physical education, task orientations are also associated with increased persistence and effort (Agbuga & Xiang, 2008; Guan, Xiang, McBride, & Bruene, 2006; Xiang et al., 2004).

The use of task-oriented climates in a variety of ability and grade levels has been demonstrated as effective in physical education. Barkoukis, Tsorbatzoudis, and Grouios (2008) found that participation in high autonomy climates increased enjoyment and reduced worrying of students at the secondary level. They also found that the participants' perceived physical competence increased. An increase in perceived competence was also found for preschool- and kindergarten-aged children in studies by Robinson (2011) and Valentini and Rudisill (2004b), respectively. In addition to engagement and self-perceptions, task-oriented climates have been shown to increase moderate-to-vigorous physical activity (MVPA) and motor skills (Martin, Rudisill, & Hastie, 2009; Robinson, 2011; Valentini, Pierosan, Rudisill, & Hastie, 2017; Valentini & Rudisill, 2004a, 2004b).

Researchers (Valentini & Rudisill, 2004a, 2004b) have examined the effectiveness of high autonomy climates for individuals with developmental delays compared to low autonomy climates in a group of kindergarten-aged children (Valentini & Rudisill, 2004b). Not only did the high autonomy group outperform the low autonomy group following the intervention, they also did so 6 months later, thus demonstrating retention of the improved motor skills over time. A similar study by the same researchers found results showing a group of children with developmental delays who received a high autonomy intervention outperforming those in a controlled climate (Valentini & Rudisill, 2004a).

Although there is substantial research on the benefits of an ASC on children's motor skills (Robinson, 2011; Valentini & Rudisill, 2004a; Valentini, Rudisill, & Goodway, 1999), physical activity (Wadsworth, Robinson, Rudisill, & Gell, 2013; Wadsworth, Rudisill, Hastie, Irwin, & Rodriguez-Hernandez, 2017), and psychological outcomes (Digelidis, Papaioannou, Laparidis, & Christdoulidis, 2003), little is known regarding the perceptions of the teachers and the children of these climates. Thus, this study is the first to compare the perceptions of teachers and children with and without DD for two instructional climates: one that is student centered and autonomy supportive (ASC), and one that is teacher centered and controlling (TCC). The ASC approach allowed the children to choose the activities from a set of activity stations and to choose how long they stayed at the activity. The TCC approach employed an instructional delivery that is tightly structured, methodical, and controlled (e.g., the teachers chose the activity and how long the children stayed at the activity).

Method

Stringer (2004) stated that researchers use phenomenology to ". . . reveal meaning and to understand how that meaning is connected to a person's life experience" (p. 25). Thus, for this investigation, we utilized a phenomenological approach to capture the lived experiences of the children and the teachers. Such an approach is an appropriate way to understand participants within the contexts and experiences of their lives (Lounsbury & Mitchell, 2009).

For this investigation, we created and implemented two instructional climates, ASC and TCC, to implement in the physical activity portion of a day camp. We designed and implemented the two climates for learning motor skills and asked children and their teachers about their perceptions of the two instructional approaches.

The Camp

The day camp was 3 weeks long and held in the summer for children aged 5 to 12 with and without DD. The camp offered a variety of motor skill instruction including fine motor skills, gross motor skills, swimming, and bicycle riding. It also included instruction on computers; nutrition; and other social, cognitive, and life skills. This

study focused on the portion of the camp on physical activity and gross motor skills.

Conditions: Autonomy-Supportive Climate Day Versus Teacher-Centered Day

For the treatment condition, we chose particular aspects that together composed an ASC. Those aspects were providing children choice of (a) which station to go to and (b) how long they stayed at any given station. The climate was student centered, and the children could navigate the stations independently and modify skill level as they perceived was needed. Decision making was embedded in the choices the children made. The instructional leader and the teaching assistants facilitated safety and gave feedback, but did not influence the children's activity decisions.

For the comparison condition, the same group of children were taught via the TCC. The same stations were offered as in the ASC, but the children stayed in assigned groups and rotated on the teacher's direction. The children stayed at the station a set time determined by the teacher, and the children went to every station with their assigned group. Instructional strategies that occurred on the ASC day and the TCC day were (a) equipment variety at each station; (b) specific goal(s) for each station; (c) rigorous adherence to safety; (d) teacher demonstration; and (e) teacher feedback, praise, and encouragement. A noteworthy difference between this study and others is that we did not create a performance-oriented climate as a control. That is, we did not encourage student competition with others, did not encourage students to win or to do better than others, and did not create situations in which students were compared to other children (cf. Todorovich & Curtner-Smith, 2002). Rather, we used a TCC approach, a developmentally appropriate instructional delivery that is tightly structured, methodical, and controlled.

Fidelity Check

Two elements ensured that qualities of the two climates as described in the previous paragraph were present. First, we designed the two climates with the direction of a professor who is known as an expert in motivational climate research. Second, another professor took field notes on 6 days, which included documenting cases illustrating the ASC and TCC approaches. The audit trail created by

these two elements provides documentation that the climates were accurately created and implemented.

Daily Procedures

The daily activity sessions of the 3-week camp began with 5 acclimation days (Week 1). Children were exposed to TCC and to ASC sessions so that they were familiar with both climate conditions prior to data collection.

After the acclimation period, we continued to expose the children to the climates during the remaining 2 weeks of camp. Each participant attended nine sessions (one session per day), five sessions which we delivered using an ASC approach and four sessions a TCC approach. Throughout the treatment, we alternated which climate—the ASC or the TCC—was presented first. The same instructor and assistants taught every class. After acclimation days, we incorporated social stories (see Social Story section) into the daily routine.

The Teachers

The instructional leader, Lucas (all names are pseudonyms), was a doctoral student in physical education pedagogy with 8 years' experience teaching adapted physical education and general physical education. The assistant teachers were two faculty members (one in physical education pedagogy, Sally, and one in motor development, Elizabeth) and a doctoral student, Junho, who was getting a dual degree in physical education pedagogy and motor development. The three teaching assistants had varying levels of experience with ASC ranging from high expertise to moderate knowledge.

Stations and Tasks

Our two daily sessions were set up with stations in one large activity room (60' × 30'). Each station was designed for the performance of a motor skill or activity. At the start of each acclimation day, the instructional leader described and demonstrated each station to the children. Because the ages of most of the children ranged from 5 to 9 years old, the activities were the same as those in a developmentally appropriate elementary physical education program and were designed so that children could modify to make the tasks more age appropriate through changing equipment or difficulty level. See Table 1 for station activities.

Table 1
Station Tasks

- Crawl through tunnel
- Ride on scooters
- Throw at target
- Throw and catch with partner
- Shoot basketball at low goal
- Jump rope
- Jump over hurdles
- Kick
- Dribble with feet
- Dribble with hands
- Throw and catch a flying disc
- Walk on balance beam
- Balance and walk on stilts
- Balance beanbags on body parts
- Strike balloon or ball with paddle
- Strike with bat
- Strike with hockey stick
- Fitness station – Roll a die to pick exercise
- Ride on hippity hop balls
- Navigate through an obstacle course
- Roll down the cheese mat
- Stomp and catch
- Walk on stilts

Social Story

We wrote a social story (Gray & Garand, 1993), which was read to the children at the beginning of each session. Social stories are tools used to assist children with disabilities (usually children with autism spectrum disorder, ASD) to interact and communicate in social situations (Gray & Garand, 1993). Using the social story, we reminded the children to follow rules and directions; to respect children, teachers, and equipment; and to play safely. We also reminded the children to be kind, be safe, and have fun. The instructor, Lucas, also verbally reminded the children of the rules and protocols for the respective day.

Participants

Of the 32 children who attended the activity sessions, 24 participated in the study. Seventeen were TD, and seven had a specific disability. Most of the children were 5 to 9 years old, plus one 11- and one 12-year-old. See Table 2 for information on the children. All attended daily 60-min motor skill activity sessions during a summer camp program. Of the 32 children, 15 were interviewed (see Data Sources and Collection section). The adult participants were the instructional leader (a doctoral student) and three teaching assistants (two faculty and one doctoral student). The university institutional review board approved the research, and the parents or guardians provided consent for their children.

Table 2
Information on Children in This Study

Child's name (pseudonym)	Age/gender	Specific disability or typically developing
Robin	7/F	TD
Ayesha	7/F	TD
Sheri	6/F	TD
Philip	6/M	TD
Dallas	8/M	TD
Jeremiah	6/M	TD
Sable	8/F	Cerebral Palsy
Maggie	9/F	Noonan Syndrome
Edie	8/F	Down Syndrome
Eamon	5/M	TD
Courtney	7/M	TD
Mikella	7/F	TD
Catherine	7/F	TD
Susan	5/F	TD
Van	5/M	TD
Cooper	6/M	TD
Doug	5/M	TD
Randy	6/M	Attention Deficit Hyperactivity Disorder
Allen	6/M	TD
Sofie	5/F	TD

Table 2 (cont.)

Child's name (pseudonym)	Age/gender	Specific disability or typically developing
Kevin	7/M	Autism Spectrum Disorder
Brandon	12/M	Autism Spectrum Disorder
James	11/M	TD
Joyce	14/F	Intellectual Disability
	DID NOT USE BELOW PARTICIPANTS	
	M	TD
	M	Autism Spectrum Disorder
	M	Autism Spectrum Disorder
	M	
	M	
	M	
	M	Down Syndrome
	M	TD
	F	
	F	Down Syndrome
	M	
	M	
	M	Autism Spectrum Disorder
	M	TD
	M	TD
	M	Down Syndrome
	M	Cerebral Palsy
	M	Autism Spectrum Disorder
	F	TD
	M	TD
	F	TD
	M	TD
	M	TD
	M	
	M	TD
	F	TD
	F	Down Syndrome

Note. F = female; TD = typically developing; M = male.

Data Sources and Collection

To give an accurate portrayal of the participants' perceptions about the two instructional climates and what they considered important, we gathered data from three sources. We collected data qualitatively using short, informal and formal interviews with children; two in-depth interactive group interviews (Ellis, 2004) with teachers; and field notes. All of the interviews were recorded with a Samsung Galaxy 4® cellular phone. The first author facilitated and later transcribed all of the interviews. Open-ended field notes were taken during the activity sessions.

Interviews with children. Fifteen of the children agreed to be interviewed (n_{TD} = 13, n_{DD} = 2). One of the children with a DD provided answers that were echolalic and thus were not usable, resulting in 14 children being interviewed. The children were given the opportunity to be interviewed individually or with a friend of their choice. All of the children knew they were in a class that was taught two different ways and knew we would be asking them about their experiences in the class.

Interviewing children brings its own particular problems to the forefront, not the least of which is the power asymmetry between the adult interviewer and the minor informant. A consequence of this lopsided relationship is that children often desire to give answers that they think will please the interviewer (Greene & Hogan, 2005). We used several strategies for putting the child at ease to obtain honest perceptions. These included

- inviting the child to be interviewed, rather that telling him or her;
- giving the child the opportunity to say no without consequences;
- giving the child the choice of being interviewed alone or with a friend;
- sitting down to keep below or even with children's eye level;
- using humor when appropriate; and
- maintaining a friendly, open demeanor intended to put the child at ease.

Another strategy important for interviewing children is phrasing the questions in an open way to elicit thoughtful answers. We

avoided questions that required a response of yes or no, and if such a question was used, the answers were considered with caution (Greene & Hogan, 2005).

For the interviews, we asked the child if he or she wanted to be interviewed, and if so we went into a quiet room with a window into the activity room. The interviews were very short—no more than about 7 min, with most being around 3 to 5 min. We probed for further answers when the responses were brief. This is the interview guide we used for the children's interviews:

- Today we used a structured rotation. Yesterday you could rotate anytime. Which one do you like better?
- What is it that you like, or do not like, about the two different ways we have activity time?
- Do you ever try a skill, or a station, that you are not very good at? Tell me more about that.
- Is there anything else you want to tell me?

Interviews with teachers. The instructional leader and the three teaching assistants sat down together two times—once for 1.5 hr and once for 1 hr—and recorded interactive interviews (Ellis, 2004) about aspects of the classes. The first author facilitated the first interview, while all instructors offered thoughts, comments, and questions about the two instructional climates. The first interview occurred after the camp ended. The interview guide for the teacher interviews included these questions:

- What was your role as a teacher?
- Was your role different from one climate to the other? If so, please talk about that.
- Let's talk about a typical day for each of the two climates.
- Talk about what you noticed about the children's actions and reactions during the respective climates.

The second interview occurred after data analysis had begun, and the teachers discussed examples of the themes that were emerging from the children's interviews. The second interview was structured around the themes emerging from the children's interviews:

- Could you see examples of a child's preference between climates?
- What were ways, if any, that children extended the tasks?

The teachers also talked at length about safety, although it was not a topic that the children talked about in their interviews.

Field notes. The first author conducted field notes on 6 of the camp days: 3 on ASC days and 3 on TCC days. Field notes also included occasional short conversations with a participant and question-and-answer sessions during introduction and closure of the activity session.

Data Analysis

Field notes, children's interviews, and teacher interviews were the three primary data sources for the study. We also had video data with which we could triangulate and, if needed, corroborate events and verify dates. We analyzed the interviews by carefully reading and rereading to uncover categories of participants' perceptions, inserting comments as appropriate (Creswell, 2013). We read through the field notes seeking further patterns and seeking actions illustrative of events observed in the field notes. We used in vivo names (Creswell, 2013), that is, exact quotes from participants as names for the themes. We developed and examined categories for common elements that tied them together. From the categories, we drew themes, followed by selectively coded data examples that illustrated the theme. We identified and grouped together significant quotes and events to form themes. Specifically, we sought to identify themes that emerged as meaningful from all data sources.

Trustworthiness. We achieved trustworthiness using triangulation, member checks, and an audit trail (Lincoln & Guba, 1985). We triangulated data by having three data sources that we constantly compared to ensure good fit into a category. Although the video data were not a primary data source, we used them as needed to triangulate and authenticate events. Having all researchers engage in the data triangulation contributed to confirmability and trustworthiness. Participants should be able to recognize and confirm as accurate their perspectives as captured by the researcher (Sparkes & Smith, 2014). To ensure confirmability, we transcribed and returned the teachers' interviews to them for member checking (Lincoln & Guba, 1985). We transcribed but did not member check the children's interviews, because some of the children were too young to read and all of the children had left the camp by the time the data were transcribed. The field notes, however, served to confirm the

veracity of the children's comments. We maintained an audit trail to ensure that all data could be traced to the source.

Results

The data revealed four themes: "I like it better when I have a choice" (children and teachers alike preferred the ASC), "Because I can stay at the station longer" (reasons participants preferred ASC), "The stomp and catch was too easy" (children were able to modify tasks to meet their developmental levels), and "I kind of obsess about safety" (safety).

"I like it better when I have a choice"

The consensus of the children as well as the teachers was that the ASC was preferred over the TCC. The lead instructor, Lucas, indicated that both climates had elements fitting his particular style of teaching; however, he expressed his preference for the ASC with the caveat that

> I remember thinking back in the moment of doing it, on the autonomy days. I felt lazy to a certain degree. "I'm not in there intervening, I'm not interjecting my, the authority I have, how dare I!" It felt weird.

Lucas went on to say that he struggled in the beginning until he became comfortable with the seemingly chaotic environment of the ASC. Eventually, though, he developed a preference for it. The three assistants, having had previous experience with the ASC, agreed that they preferred such a climate. Elizabeth, in the interactive interview, asked Junho his thoughts and feelings about the setting, saying, "Did you feel comfortable? Did you feel like we were losing control between the two days?" He responded, "I didn't think we were losing control at all. I think the kids were more happy on the ASC days." Elizabeth agreed, "I have to say that. 'Cause we saw crying on the TCC days! And we didn't see that on ASC day." Lucas added, "It's like giving them candy. And then you say, 'no candy today!'"

As the teachers indicated in the interactive interviews, there was no question which climate the children preferred. Once the

acclimation days were over and the treatment days began, the children would rush in and ask if it was a "choice" day. The interactive interviews and field observations showed that, without exception, children squealed with delight if told that it was an ASC day and faces fell if they learned that it was a TCC day. Additionally, on nearly every TCC day, Maggie cried. One could always tell what day it was by Maggie's unhappy outbursts. While no other children cried when one day or another was realized, Lucas suggested that the children who were TD also acted somewhat differently on TCC days. If they had to go to a "nonpreferred station it was like the effort either was not there or it was lacking."

Consistent with these observations from the instructors, without exception the children reported that they preferred the "choice" days (ASC) over the TCC days. Several children quickly responded with a one- to two-word answer, such as Maggie saying "choices!" and Jeremiah saying "free choice!" Allen clearly expressed his preference when he said, "I like it better when I have a choice." Philip exclaimed, "Choice thing! I like to pick what I like to do!"

The teachers noticed that time was a relevant factor. Junho said that he found himself giving more feedback on ASC day, ". . . more so than direct instruction, 'cause on TCC there's only so much time that you have, cause they don't stay as long." While the children did not articulate the aspect of time, the teacher interactive interviews indicated that the teachers noticed the impact of more time on the children's decision to modify tasks.

"Because I can stay at the station longer"

Once they communicated their preference, we asked the children to explain their reasons for their preferences. Cooper, 6 years old, provided the quote for the above heading. Other reasons children articulated were because they could leave the station when tired or bored, they could play with their friends, and they could do what they wanted. Sally noted that the children thinking they could "do what they wanted" was interesting, because they only had two decisions to make: which station and how long to stay there. Six-year-old Sheri elaborated in her response, saying,

> I like to get my choices because it sounds sort of like making my own choice, like - to choose what I want to eat, what you want to play with or do, that's why I sort of like getting my own choice.

Robin articulated her preference by saying, "Probably both [climates], but I more like choices because . . . sometimes I get bored at different stations, so when I get bored I can just go to a different station." Jeremiah summed it up succinctly, saying, "Because we get to choose our own stuff." James agreed, saying, "The free choice day, you can pretty much do anything you want. You can play with your friends if they are not in your group." Ayesha usually played with Robin, and she was clear on why she preferred the ASC:

> Because you get to do it whenever you want, and you don't have to stay at the same station. Because if that station is tiring you out and you want to go to an easier station that won't, like, tire you out that much.

Alternatively, Courtney remarked how "you can stay there the whole time!" Robin and Ayesha both pointed out that they sometimes got bored at the station, and if so, they could "just go to a different station."

The TCC days often contributed to what the teachers called "onlookers," because some children (e.g., Maggie) refused to participate if they could not choose. Kevin, too, would wander vaguely on the TCC days, whereas on the ASC days he shot basketball the whole time. Other children would participate in the stations, but Lucas noted some did not put forth as much effort as they did on the ASC days. Alternatively, on the ASC days, if a child had no interest in a task, then that child could skip it altogether. Philip, for instance, said emphatically that he was "not a big fan of jumping. I don't like to jump! It makes my legs tired!" In the ASC, he could focus on a station at which he would like to improve, such as throwing a disc.

As teachers, we pondered and discussed why the children preferred the ASC, beyond the simple explanations the children gave. Elizabeth noted, "It almost became an entitlement to them! Like they really wanted to have freedom of choice." Junho concurred, calling

it "structured freedom." Lucas added that despite the freedom, the children understood the expectations of the tasks. Elizabeth added, "They got to make decisions."

"The stomp and catch was too easy"

Modification of the task was especially encouraged on the ASC days. If one of the teachers saw a child struggling or, conversely, performing with ease, the teacher might query the child about making the task more or less challenging. When asked if he ever changed the task or tried to make it harder, Cooper said, "One time when we had the obstacle course with the balance beam and the hurdles and the tunnel, I starting hopping (two foot jumping) over the hurdles instead of leaping over them." When asked if that made it harder, he replied, "Um hm [yes]. I tried hopping on one foot, too [over the hurdles]." He went on to say he was not able to do that.

When on the hippity hop balls, 5-year-old Eamon pitched forward and went right into a forward roll. Impressed, one of the assistant teachers asked him if he intended to do that, to which he replied no, that he executed a safety roll so he would not hit his head. Thus, while he did not deliberately add the challenge, he added a previously learned skill to the one he was doing when the situation called for it. After being noticed, Eamon continued to practice falling into a forward roll.

A balance station had children walking on dome cones and the balance beam as part of the task. Van and Doug made the task more difficult by walking backward on the beam, while Cooper turned and walked sideways on the dome cones. Later he reflected on another task in which he concentrated on a specific aspect of the skill: "I changed hockey where I try not to just go 'pow!', I like to act like a hockey player and keep it level. So it'll go in straight."

Extending the task can also mean making it easier. Edie, a child with Down syndrome, sought out a smaller, lighter ball when she was unable to reach the basketball goal with the ball she was using. Instructors Elizabeth and Sally looked on while Edie picked up a regular basketball, tested the weight with her hands, then put it down and picked up a lighter ball, which she promptly started dribbling, then shooting. Elizabeth remarked,

> She really had a drive to get better at that skill. I don't think kids, just because they have a disability, can't figure that out. Once a person has an interest but they can't pursue it, they won't ever get good enough to do it.

One of the tasks was "stomp and catch." This is a small board like a teeter-totter with a place on one end where a ball or beanbag can be set and a place on the other end indicating where to stomp. Doing so projects the object straight up, and the child attempts to catch it. Another task was walking on stilts, which are upside down plastic buckets on which the child stands and walks, holding taut the attached strings to keep balance. Several children combined these by walking on the stilts and stomping on the board while still on the stilts. However, sometimes seeking a challenge led to safety concerns. Junho approached Susan, Sofie, and Catherine as they made the combination, stomping the board while on stilts, and cheering for one another when successful. He inquired about what they were doing. The girls told him, and though he agreed that it was harder that way, he was concerned for their safety. They demonstrated the modification to assure him they were acting safely, and said doing only the stomp and catch was too easy!

Elizabeth would encourage extending the task by saying, "You know, that looks kind of easy [for you]. Why don't you challenge yourself?" Likewise, Junho said,

> I was encouraging effort a lot on the ASC days.... manipulating the task, finding ways to make it more challenging for those that could do it. For example on the stomp and catch, "see how high you can get it, see if you can clap [he claps twice] before you catch it."

The children were usually eager to comply with the suggestions to modify, and many did so without being prompted.

"I kind of obsess about safety"

There did not seem to be any difference in safety between the two climates. When interviewed, the children did not mention safety. Lucas noted, "If they didn't talk about safety, it was telling—it wasn't an issue." However, the teachers were consistently aware of the environment and of circumstances that might lead to an injury.

Elizabeth, one of the teaching assistants, was particularly keen on the importance of safety in an ASC:

> In order to have an effect in an ASC, you have to have a safety component. They have to feel as though they can be free and move on their own and manage themselves without getting hurt by someone else who might be more skilled or aggressive or bigger.

One station of concern was the hippity hop station. We set up a "road" using a rectangular pathway of mats. The children were to stay on the mats and always to go in the same direction. On one ASC day, the children at that station were rambunctious, laughing as they were changing directions, passing one another, falling off of the balls, and going off the mats. Sally, a teaching assistant, noted that occasionally a child would interpret the ASC to mean "I can do whatever I want!" We had to stop the action and explain why what they were doing was not safe. Some children reined in their exuberance and began following the rules, while others left the station because, presumably, it was no longer fun. In the interactive interview, Lucas asserted, "The ones that would dominate by being all over the place, they were like, 'well, if I have to do it this way, I'm going to go someplace else.'" Elizabeth agreed and remarked that after those children left or settled down, the other children came to that station: "They didn't want to go there because they were intimidated, but then after we managed that [safety], it was interesting how we had way more kids that would go and be involved in that activity." She went on to say, "I kind of obsess about safety."

Perhaps the children did not notice safety issues, because of the things that happened on a regular basis. A case in point was Brandon, a child with autism spectrum disorder (ASD), who would break and run. Without warning, and before his aide could stop him, he would sprint across the room. At the wall, he would jump up and launch himself off, running back in the direction from which he came, without regard for whom he may run down in the process. Fortunately, no one was hurt (including him!) during any of those episodes. Of less concern was the presence of loose balls that might roll behind a child involved in another activity. Whether it was basketball, throwing, catching, or stomp and catch, there was never a day without

balls. Despite the virtual boundaries of the stations, balls would sometimes break free, resulting in someone tripping on one or taking the occasional inadvertent shot to the head. While the teachers fretted and attempted to be proactive about safety—for instance, placing a university student at the basketball goal to rebound—the children seemed to take such things in stride.

A salient factor with the potential to impact safety was the variance of developmental levels of the children. It was important that the younger children, those with a disability, or those who were less skillful were able to participate safely alongside a more skillful child in all conditions. For instance, at the hippity hop station, an adult assistant struggled to help Sable, a child with cerebral palsy, mount the ball. When the other children came up behind her, they stopped and waited politely and patiently until the child was able to start moving forward.

With regard to safety, Lucas noted, "I think with the population there was an expected level of chaos that everyone just dealt with." All the instructors agreed, and while we could see the chaos, which Junho labeled "structured freedom," the children simply participated happily, not perceiving the careful behind-the-scenes planning and on-the-spot modifications the teachers made.

Discussion

The data revealed four themes: "I like it better when I have a choice," "Because I can stay at the station longer," "The stomp and catch was too easy," and "I kind of obsess about safety." We further discuss and interpret these findings in this section.

Enjoyment

Two themes, "I like it better when I have a choice" and "Because I can stay at the station longer," indicated the children's preference for the ASC. Although we did not attempt to determine a relationship between preference and enjoyment, we inferred from the children's responses that their preferences for the ASC could be due to enjoyment. Their comments that they could leave a station if they became tired or bored suggest enjoyment as a reason for preference. Likewise, field notes indicated many cases of children, such as Kevin and Edie, staying longer at a particular station. Although much research has looked into enjoyment in physical education, we

found little (e.g., Gråstén, Jaakkola, Liukkonen, Watt, & Yli-Piipari, 2012) that tracks or otherwise determines enjoyment of a particular climate. Cox, Duncheon, and McDavid (2009) investigated aspects of self-determination in physical education and how students responded. They found that relationships with peers as well as teachers facilitated self-determined motivation and related directly to the amount of enjoyment students experienced.

Challenge

Children who stay longer at a station may be doing so because they have time to work to meet a challenge or solve a problem. One of the advantages of the ASC for all children was the factor of flexible time, which meant more time for children to modify and extend a task. A child had time to practice at a station long enough to get sated, or to get to a point at which he or she was ready to modify the task. One of the modifications the children made was using the stilts to manipulate the stomp and catch boards. Making this extension meant moving equipment from one station to another, and that would not have been possible on the tightly structured TCC day. The teachers observed several cases of children focusing intently on a particular skill, such as Edie and basketball. Elizabeth noted how long Edie persisted at basketball, shooting repeatedly and making adjustments to improve her success.

Length of time at a station may also speak to the holding power of the task. Hastie, Johnson, and Rudisill (2017) identified the potential for modification and the potential for success as elements of a task that give it "holding power." These elements motivate the child to stay and continue to practice and advance his or her skills.

Independence and Choice

On some occasions, the children seemed to interpret the two choices they had—which station and how long to stay—as blanket permission to do anything they wanted. Indeed, when asked why they preferred the "choice day," several children said, "Because I can do whatever I want," and several others expressed a similar reason in different words. This perception of freedom, however, rarely led to off-task behavior or safety issues, except for the rare incidents described in the results. It seemed that having the two choices was enough of a change from the TCC to facilitate greater perceptions

of independence, and that was enough to influence the children's preference. A study by Martin et al. (2009) supports this notion, as the authors affirm that "the freedom to act independently and make choices in selecting activities . . . increased effort and increased on-task behavior in these students…" (p. 238). Further, the ability of an ASC to promote independence is supported in the original work by Ames (1992).

Independence and choice are not concepts typically associated with children with disabilities; indeed, individuals in this group are often represented—or misrepresented—as being dependent on others. We found in this study that children with disabilities could handle high autonomy climates as well as children who are TD did, but this requires careful planning and implementation. All children must feel safe in their environment and have access to equipment without other children taking it from them, or otherwise dominating or overpowering them. If teachers structure the climate in ways that facilitate the participation of all children, then children with disabilities can succeed as well, and even thrive. Structuring for success for all children means including a variety of equipment and built-in modifications to the presented tasks. Including children with disabilities may further consist of having supports to facilitate independence, such as a one-on-one assistant with a child, social stories, peer models, and/or picture schedules.

Conclusion

Substantial evidence exists that autonomy-supportive physical education climates result in many positive learning outcomes, including improvements in motor skill learning and increased physical activity engagement (cf. Martin et al., 2009; Robinson, 2011; Valentini et al., 2017; Valentini & Rudisill, 2004a, 2004b). This study extended the research by investigating children's perceptions and preferences of an ASC compared to a TCC. Findings from this investigation suggest that children with and without disabilities perceived the climates as different from each other and preferred the ASC over the TCC. Students prefer to learn in a setting that allows for enjoyment and challenge and that promotes independent learning. The findings from this investigation provide an explanation for why earlier studies found positive learning outcomes.

Limitations

This study has a few limitations. Unlike a traditional physical education course that may last a full school year, the camp was only 3 weeks long. After a week of acclimation, we had 9 days of treatment with the two climates. In such a short time, it was likely that the element of novelty was never lost. Exposing the children to more days of each climate may have revealed different perceptions of the learning experience.

While we patterned the camp instructional sessions to resemble a physical education class, many practicing teachers would point out aspects that set us apart: we had four teachers, plus staff, to no more than 32 children; we had an abundance of developmentally appropriate equipment; and we had an air-conditioned room with an adjacent outdoor area for our use. These factors limit the transferability of the findings.

Finally, when an ASC is used, it is typically not alternated with a TCC climate. Thus, children are not usually able to compare climates on a day-to-day basis. Being able to do so may have made it easier for the children to detect differences and thus may have influenced preference.

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