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# Perceptions and Practices of Physical Activity Among Colombian Overweight/Obese Schoolchildren

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## Abstract

The purpose of this study was to explore the contexts that shape obese children's engagement in physical activity (PA) focusing on children's perceptions. The qualitative design consisted of non-participant observations, and unstructured and semi-structured focus group and individual interviews. Data were analyzed by use of conventional content analysis. Participants were overweight/obese children from a public school in Colombia. The findings show that the main context where PA took place was during physical education (PE) classes at school and in the children's neighborhoods. The participants perceived the PE classes to be too competitive and demotivating. PA taking place outside school was associated with fun, but occurred only on an infrequent basis and was challenged by living in insecure neighborhoods. Adapting a health promotion approach that emphasizes participation and social environments might motivate obese children to become physically active at school as well as during leisure time.

## Keywords

America, South, children, exercise/physical activity, health promotion, motivation, obesity/overweight, research, qualitative

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## Introduction

Childhood obesity is increasing worldwide and is currently one of the most serious public health challenges. Globally, in 2013, more than 42 million children under the age of 5 were obese, and the majority of obese children live in developing countries (World Health Organization [WHO], 2014). Moreover, youth with low socioeconomic status (SES) participate in less physical activities (PA) than their more advantaged counterparts (Humbert et al., 2006; Tate, Dillaway, Yarandi, Jones, & Wilson, 2015). Obesity frequently causes comorbidities, low school performance, social isolation, and psychological problems, which are detrimental to mental health (Lewis, Fraser, & Manby, 2014; Wang & Veugelers, 2008). To avoid childhood obesity, it is crucial to engage in promotion of behaviors favoring PA (Deforche, Haerens, & de Bourdeaudhuij, 2011).

Although PA plays an important role in weight management, children are not meeting the recommended levels of PA (Moore et al., 2010) and are more likely to engage in sedentary behaviors along with a high consumption of energy-dense food and drinks (Hale & Guan, 2015; Saunders, 2014; Tremblay et al., 2011). Although physical education

(PE) programs aim to promote PA and reach most school-aged youth, PA levels within PE lessons are often low (Lonsdale et al., 2013).

Exercising to prevent being overweight is not only a matter of individual behavior, particularly when addressing children who depend on close relatives and adult support. Growing bodies of theories address PA and motivation to engage in PA as a complex interaction between individual preferences, experiences, and physical and social environments. Self-determination theory (SDT) suggests that creating opportunities for having choices, feeling effective, being competent, being socially connected, and having relatedness can increase autonomous motivation for PA, even in children

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with obesity (Deci & Ryan, 1987; Deforche et al., 2011; Ryan & Deci, 2000a; Teixeira, Carraca, Markland, Silva, & Ryan, 2012). The satisfaction of such needs is likely to lead to relatively self-determined types of motivation, which predict more adaptive outcomes related to behavior and well-being across a variety of life domains (Ryan & Deci, 2000b).

Although SDT is promising with regard to motivational factors in a learning environment, it lacks an explicit focus on the structural and organizational factors that also influence people's engagement in PA in their daily lives. The healthy settings approach, originating in the health promotion discipline, emphasizes that health is created by people within the settings of their everyday life, and is therefore concerned with developing contexts that support people to live healthy lives (Bodstein, 2007). This approach builds on an ecological and systems perspective that acknowledges that each system or social setting is part of a greater whole, that is, that each setting functions in exchange with the wider system and other settings within it (Dooris, 2009). The healthy settings approach thus allows us to address childhood obesity related to physical inactivity, as a social and environmental problem rather than one of individual behavior (Moffat, 2010).

Considering the two theories outlined above offers a holistic perspective that enables one to understand how children's engagement in PA is influenced by structural and social factors in their daily lives, as well as the motivational environment constituted through PE classes at school.

Qualitative data are highly valuable because they offer great insight into the perceptions of PA and the contexts that shape children's engagement in PA. To understand the environmental factors that influence participation in PA, this study aims to explore the PA practices that overweight/obese children from a public school in Medellín, Colombia participate in and the perceptions they attach to these practices.

## Method

### Setting

The study is a part of a larger research project that combines two methodological approaches; a quantitative study with a cross-sectional design (anthropometric assessment) and a qualitative study design consisting of two parts: an exploratory and a subsequent study. The complete methodology for the larger research project is described elsewhere (Olaya-Contreras, Bastidas, & Arvidsson, 2015). In this study, we report solely from the qualitative study design.

The study was performed in Medellín, Antioquia, the second biggest city in Colombia, with approximately 5 million inhabitants. About 17.5% of the population live in poverty and 3.5% live below the indigence line (Medellín Cómo Vamos, 2014). In children aged 6 to 11 years and adolescents aged 12 to 17 years, the prevalence of obesity increased threefold between 1980 and 2010, and one in every six children in

Colombia is overweight/obese (Instituto Colombiano de Bienestar Familiar, 2011). In Medellín, stunted growth and overweight/obesity are the two most critical problems in the nutritional status of children (Alvarez, Mancilla, Gonzalez, Arboleda, & Isaza, 2010).

The biggest public school in the region was selected for the study, which represents the city's 16 communes (249 urban neighborhoods and five rural subdivisions). The majority of the students (92.74%) come from the lowest socioeconomic levels (Departamento Nacional de Planeación, 2007).

The school was contacted through the school psychologist who was acting as a "gatekeeper." Following this, the principal invited us to present the project to the teachers, and to receive suggestions and logistical recommendations. We then received the institutional consent from the school to perform the whole study. Upon receiving the institutional consent, the main researchers ([P.O.-C.] and [D.-C.O.]) explained the main goals, design, and phases of the study to the teachers of Grades 6, 7, and 8. For logistical reasons, the quantitative study was conducted first. Here, an anthropometric evaluation was performed where children were categorized as normal weight, overweight, or obese based on gender- and age-specific body mass index (BMI) *z* scores (WHO, 2014). Based on the anthropometric evaluation, we were able to invite children categorized as overweight or obese to take part in the qualitative study. Children who had parental permission, were in Grade 6, 7, or 8, aged 10 to 14 years, and were overweight or obese were invited as interview participants.

### Study Design and Data

Data generation took place at the school between April and October 2013. We used focused ethnography to approach subjective and inter-subjective realities in schoolchildren, as well as to understand the practices and perceptions of boys and girls with overweight/obesity with regard to PA (Savage, 2006). First, the main researchers (Olaya-Contreras & Ocampo) and four research assistants from the Nursing Faculty at the University of Antioquia conducted an exploratory study, consisting of non-participant observations, and informal, unstructured interviews (individual and group). All students ( $N = 60$ ) from Grades 6 (10f, 10m), 7 (10f, 10m), and 8 (10f, 10m) were enrolled in non-participant observations.

Non-participant observation was performed during students' *pausa/recreo* (breaks), PE classes (swimming, football, basketball, volleyball, gymnastics, swimming, and taekwondo), and other extracurricular activities such as play during leisure time at the school. This gave us a unique opportunity to observe overweight/obese children perform physical activities in their natural settings. In total, we carried out 20 hours of observation and recorded them in a field diary in a precise and detailed manner immediately after each observation session. The PE teachers were involved in non-participant observations; however, they were aware that

**Table 1.** Data Generation Strategy.

Methods	Non-Participant Observations	Unstructured Interviews	Semi-Structured Interviews	Focus Group Discussions
		Group and Individual	Individual	
Participants				
Girls 10–12 years (Class VI)	PE class in different settings, other recreational activities at school	Individual (2 participants)		
Girls 12–14 years (Classes VII and VIII)	PE class in different settings, other recreational activities at school		Semi-structured interviews (10 participants)	Discussions 1 session (5 participants)
Boys 10–12 years (Class VI)	PE class in different settings, other recreational activities at school	Individual (4 participants) Group interview (1 session)		Semi-structured interviews (1 participant)
Boys 12–14 years (Classes VII and VIII)	PE class in different settings, other recreational activities at school		Semi-structured interviews (10 participants)	Discussions 1 session (5 participants)

Note. PE = physical education.

they were not the subjects of interest at the present study. Our main interest lay toward the dynamics and the context of PE class.

The unstructured interviews were guided by a list of broad topics covering types and perceptions of PA taking place at school and during leisure time. All students who met the inclusion criteria were invited as interview participants. However, young children from Grade 6 preferred to participate in group interviews. It is important to highlight that there were very few younger girls who were overweight/obese compared with boys in the same age range (10–12). Two girls (overweight) and four boys (overweight) from sixth grade participated in individual semi-structured interviews, and eight boys (four also participated in individual interviews) from sixth grade participated in an unstructured group interview. Older girls and boys requested to be interviewed individually. Thus, respecting the children's decision, 21 students were then selected to participate in semi-structured interviews in the subsequent study (see also Table 1). The total number of interview participants was 31. All interview participants also took part in the non-participant observations.

Data generated from the explorative study had two purposes: They were included in the analysis of the practices children were engaged in, and they were used to design the interview guide in the subsequent study.

Second, the main researchers performed the subsequent study gathering information by means of semi-structured interviews and focus group discussions (FGDs). Based on the findings from the exploratory interviews, the main researchers elaborated a semi-structured interview guide, with broad and conversational questions, which allowed for the exploration of emerging themes and facilitation of participants' accounts of PA. We covered topics including experiences of PA (e.g., How do you feel about PA now? Do you like your PE class? How do you feel in the PE class?), PA

taking place outside school (e.g., Which types of PA do you engage in, with whom, where, and when?), motivations to participate (e.g., Why do you like to be physically active? Why not?), perceived support, and the relationship between PA and obesity. Each interview lasted between 40 and 70 minutes, and was conducted by one of the main researchers in a private room. We collected information until the "saturation point," that is, until the data were repetitive, without containing important new apprehensions or new additional information, only redundancy of the previously collected data (Straus & Corbin, 2002).

Children who participated in semi-structured interviews were further invited to participate in a FGD. FGDs were chosen as an additional interview strategy because discussions taking place with peers often reveal different data as a result of group dynamics than data obtained in individual interviews (Rabiee, 2004). However, girls felt uncomfortable discussing obesity and physical inactivity in front of the boys. For this reason, we conducted FGD separately, one for girls ( $n = 5$ ), and one for boys ( $n = 5$ ), taking place in a private, small conference room at the school. One of the main researchers moderated each session, and the other observed and took notes, protecting the confidentiality and comfort of the participants.

All interviews were conducted in Spanish, recorded (audio), and transcribed word-by-word immediately after the interview.

### Analytical Process

The data analysis was based on conventional content analysis, which aims at describing phenomena, gaining direct information from study participants without imposing preconceived categories or theoretical perspectives (Hsieh & Shannon, 2005). The theories outlined in the "Introduction" section have therefore not guided the study design or the data

**Table 2.** Development of Themes.

Open Coding	Preliminary Codes and Hierarchical Structure	Final Themes
Physical activity and curriculum; sports taught; tasks of physical education class; class-based instructions; the teacher teaches and the student memorizes; recommendations; Game types; play areas; share the game; daily routines; time and frequency; activities performed at home; Follow rules; contribution to health; Physical benefit; permanent practice; No need to follow rules; moments of rest and/or to be with family and friends; it is an optional practice; fun; enjoyment; socialize Disease; cause diseases; loss of some capabilities; altered the own body image; eating is something essential physical activity is an option; lose weight; disease prevention; disease condition; Laziness; lack of knowledge; sports is scary; Family and social environment: lack of significant reference; religion, security issues; institutional coverage: academic load Positives: Enjoy, have a good time; feel good. Negatives: laziness, anger, shame/embarrassment; sadness, stress. Differences between boys and girls; girls are “more sensitive”; image “different” from others’ “Look bad, feel bad” Mistreatment; “They think they’re better”; discrimination	Physical activities in class <ul style="list-style-type: none"> <li>• types of practices</li> <li>• characteristics,</li> <li>• pedagogy</li> <li>• teachers</li> </ul> Play and recreation <ul style="list-style-type: none"> <li>• Types of practices</li> <li>• individuals and groups</li> <li>• characteristics: places, settings, and time</li> </ul> Conceptions <ul style="list-style-type: none"> <li>• Sport</li> <li>• Recreation</li> <li>• Overweight, obesity</li> </ul> Conditions/hinders <ul style="list-style-type: none"> <li>• Motivations</li> <li>• Reasons for not performing PA</li> <li>• Emotions to PA</li> </ul> Self and others’ perceptions <ul style="list-style-type: none"> <li>• Physical activity and gender</li> <li>• Self-image and self-concept</li> <li>• Others’ perception about me</li> </ul>	Physical education class at school <ul style="list-style-type: none"> <li>• The organization of class</li> <li>• The role of the teacher</li> </ul> Physical activities in leisure time <ul style="list-style-type: none"> <li>• The role of the neighborhood</li> <li>• Online “physical” activities</li> </ul> Perceptions toward physical activities <ul style="list-style-type: none"> <li>• Sports are rules and competition—recreation is for fun</li> <li>• Physical activities and obesity</li> </ul>

Note. PA = physical activity.

coding process but are rather used to contrast and support our findings as illustrated in the “Discussion” section. We used Microsoft Excel to aid in the organization of data.

Conventional content analysis can be divided into a process consisting of four parts (Hsieh & Shannon, 2005). First, the interviews were carefully read through several times to obtain a sense of the whole perspective. Second, open coding was done line by line, categorizing the data into meaningful analytical units (Graneheim & Lundman, 2004), and maintaining the terms that participants used. Third, after having performed open coding on all interview transcripts, we examined the coded text and made notes of our initial analytical reflections. During the process, new categories emerged and existing ones were collapsed or developed into subcategories. Fourth, we examined all codes and categories to compare the contents across the entire data set.

The first and second authors performed the first phases of analysis. Based on this part of the analysis, a report (written in English) was performed. This report enabled all authors to be engaged in discussions to decide on the final themes as presented in the “Results” section (see also Table 2). The involvement of more researchers in the analytical process enhanced the reliability of the interpretations (Creswell, 2014).

To ensure methodological rigor, we used triangulation by comparing different data sources of information and by comparing data generated by the various methods used: non-participant observation, FGD, and unstructured and semi-structured individual interviews (Creswell, 2014). During the FGDs, information validation took place with the participants, and emerging categories from the analysis of the non-participant observations and interviews were refined.

Although the focus groups were designed according to gender, there was no clear analytical pattern associated to gender. Therefore, no distinct gender category was evolved in the development of themes. However, there were a few specific topics that appeared to be related to gender, but there was no consistency in and among the categories. When such a gender-related topic is presented in the “Results” section below, it is clearly stated whether it belongs to girls’ or boys’ perceptions.

### Ethics

The Research Ethics Committee of the Faculty of Nursing, University of Antioquia, Colombia, approved the study before the investigation began (Ethics Committee, Acta CEI-ENFER 2013–05). Participation was a voluntary and

autonomous decision by the students, approved by their parents. All participants, that is, the children, teachers of PE, and relatives, fully received information regarding the project, which gave clear and complete explanations of the study purpose, the phases of the study, its funders, and its forms of dissemination.

Information was first given to the children during the recreational pauses, to the PE teachers through the coordinator of PE classes, and thereafter, to the parents in separate meetings. For children who agreed to participate, we invited their parents for a special meeting informing them about the specific steps of the study. In addition, we followed consent procedures for vulnerable populations to ensure comprehension of the permission letter, which included reading the form to the participant when necessary.

Participants gave consent and declared that they had understood that they could withdraw from the study at any time without any consequences for them. Parents, who agreed with the participation of their children, returned a signed parental permission form. The children then received an appointment to be interviewed. The investigators were experienced in managing schoolchildren, and a data code was assigned to each interview participant in the transcripts to ensure confidentiality. There was no conflict of interest with the school.

## Results

### *Physical Education Class at School*

*The organization of class.* The school's sports program was mandatory for all students, and consisted of volleyball, basketball, football, athletics, swimming, and taekwondo and was carried out twice per week. The formal settings included the classroom, the multi-sport arenas, sports center, swimming pools, and gymnasiums. In a typical PE class, the students waited for instructions that contained a theoretical component to be memorized. According to the students, they were not always able to put the theory into practice, and they experienced a lack of consistency between the theory and the exercise that followed: "What can be improved? To have more time to learn about the game, not like now where the teacher only explains the theory, and there you go—do your best." In addition, the students experienced the organization of class as demotivating:

We cannot choose the sport we want to practice; during the first period, we are taught basketball. We wanted to continue with football or swimming, but we got gymnastics; the teacher said that it was already programmed in that way.

The school organized the PE classes to include homework assignments. In this regard, the students had opposing positions: Some were positive, and others considered that these assignments did not contribute to personal growth or

inspiration. They experienced to have little influence on the forms of PA performed in the PE classes.

There were few other opportunities to be physically active at school. However, during breaks between classes, children gathered to play or "pass time." They used open-air facilities found in several of the yards in the school to meet, eat food, and play. They also used settings designated for other activities, such as the school's yards to improvise areas such as football fields: "During breaks, some youth play football in the yard, simulating a field, using their own bodies as goalposts, and the limits are constituted by imaginary lines they make up."

*The role of the teacher.* The teacher played a crucial role in how students perceived the PE classes. Some felt encouraged by the teachers, while others raised problematic issues such as the teacher's lack of engagement and lack of enthusiasm for attending the PE classes:

He [the teacher] has a lot of respect for the students. When he sees that a student does something wrong, he tells him, he calls on him and asks why the student does not wish to do something so sometimes kids say that they don't know, so they do something else, so he explains to them, he teaches them.

Other students were less satisfied, and the dissatisfaction appeared to be associated with the relationship with the teacher and with the teaching methods:

I think the physical education classes are okay, what is perhaps bad is the teachers who teach us badly. For example, I have a teacher who when teaching gymnastics obligated us, well not obligated, but simply showed us how to do a handstand and I cannot do that because I have a problem with my back and I told him: "teacher assign me some written work, please," I try but I can't and he told me no. Therefore, I think the problem is with the teachers.

Some students raised the issue that some teachers did not demonstrate the particular exercises beforehand, which left them insecure about how to proceed. For students, these teachers did not represent engagement; on the contrary, they identified these teachers as having a "lack of enthusiasm":

They [the teachers] want you to do everything, and they don't even show enthusiasm; they just merely tell you to do these things, or other things, and that makes you insecure . . . Well, the case is that he comes and starts making you do something, right, and you have to do it perfectly and he doesn't even show you how to, he explains but only in words, he rarely shows with actions.

The children stated that the teachers did not pay attention to students who were overweight/obese: "Some teachers are very strict, because they do not care that some students are overweight and they do not care, so they continue as normal."

In addition, some teachers did not include these students in deciding which activities they should perform. As a consequence, they felt under pressure because the teachers “obligate students with overweight/obesity to do what they are not able to.” The lack of consideration of students’ capabilities also applied to students who were afraid of swimming:

The swimming teacher might act the same as the PE teacher does; he should also go in the pool and teach us to swim, teach us several swimming styles, so we won’t be afraid. He should be with us, many of us are afraid of drowning, given that, we don’t know how to swim; some know how to float, but he says he taught us, but he didn’t teach me.

### *Physical Activities in Leisure Time*

*The role of the neighborhood.* Activities taking place in leisure time included biking, team sports, and walking: “We [the relatives and the student] walk, eat something, and if it is too hot we take transportation and go someplace else and when we have money we go and buy what we need for the house.” The time spent engaging in these experiences of PA—ludic or recreational—ranged between 30 minutes and 4 hours per day. However, students stated that time for play was sometimes scarce or non-existent, which was associated with students’ responsibilities: “Sometimes I can’t play because I have to do homework, other times I have time to play.”

Activities were performed individually or as the students preferred, in groups with relatives, friends, or classmates. Engaging in team sports included football, basketball, paintballing, and table tennis. Popular children’s games also took place in groups: “Although we are older we still like to play football, tag, hide, and seek, and things like that.” The students enhanced that they felt motivated to be physically active by being supported from their parents or other relatives, and friends. The boys particularly expressed that their father was a motivation for engaging them in PA to “make him proud” and vocalized wanting to “be like strong my father.”

Students found other settings close to their homes, in their neighborhoods, to engage in PA. There were multi-sport arenas or “fields” where students met to play football or basketball: “One field is about two blocks down and another is about three blocks up. Sometimes we go to those fields to play football.”

Streets also provided an opportunity for the students to play on freely when their parents allowed them to play and without worrying about traffic: “We play in the street because it does not have a lot of traffic, given that the street is closed, so we have a very big setting to play in.” Likewise, the homes of some classmates also constituted a suitable setting in which recreational activities were practiced: “Some of my friends have big backyards, so we go there to play.”

Nevertheless, neighborhoods were not always appropriate and safe for the students as violence, thefts, robberies, and drug dealing characterized some areas. In such situations, the

students would have to stop their activities and leave the streets. The people in Medellin identified these neighborhoods as “hot”:

My neighborhood, like all neighborhoods, is hot. But mine is also very tranquil because the people who participate in those gangs respect the people. They try to collaborate for example when we go out to play or something, sometimes they come and tell us please go home or something like that, but that doesn’t happen very often, just sometimes.

Because of their relatives’ perception of insecurity, the girls in particular stated that relatives always had to accompany them when they performed PA outside the house. Consequently, neighborhoods gave alternative opportunities for outdoor PA, but they were also at times a barrier for the students to be out in the streets.

*Online “physical” activities.* Playing computer games, using social media, and watching TV were key activities for the students in their leisure time. Students did not classify these activities as PA but perceived them as a barrier to be more physically active. They did however consider social media as a means to arrange plans with relatives or friends that included being physically active: “For the only thing I see [social media] influence on PA is to agree with friends to go out to play.”

Although the students recognized that using the computer and watching TV were factors related to their overweight/obesity and promoted a sedentary lifestyle, it did not motivate them to be more physically active. They perceived that these practices led to addiction and the urge to stay connected to their online friends:

The more you sleep, the more weight you gain; it is the same with the computer, the computer keeps you there and sometimes you are not capable of leaving because you don’t want to leave the person you are chatting or playing with.

They were aware that watching TV was a barrier to performing PA and that it made them passive:

It keeps me from doing more sports, watching too much television, given that when you arrive from school you watch TV for one hour, have lunch, and lie down to watch television for a while and then you do homework. After that, my little brother tells me to go out to the sports field, and hey I don’t want to, I want to stay on the computer or watch television.

Online activities were also a means to imagine being physically active: “What can you do in these games? Kill, rob, run 30 marathons without getting tired, to put it some way, travel to other parts, play games that are not known here, you can do whatever you want there.”

Computer games thus constituted a barrier to being physically active, while allowing for the students to socialize

online, learn, and engage in activities that were impossible out in the “real world.”

### Perceptions of Physical Activities

*Sports are rules and competition—Recreation is for fun.* The Spanish term used to make the students elaborate on their practices and perceptions of PA was *actividad física* (physical activities). The students associated *ejercicio* (exercise) and *deporte* (sports) as taking place at the PE class. Few of the participants referred to sports practices in extra-institutional spaces, for example, sports and games organized by private or public institutions.

Participants expressed that sports contributed to good health and improved their physical appearance, and others saw sports as a means to lose weight: “When doing sports, you burn calories, so if you do sports continually, you could lose weight or get toned.” The students associated sports with a healthy body, and they also perceived sports as something that implied following rules: “Sport is more about following some steps to manage to do it well.” This is similar to how the children perceived the activities that took place during PE classes, which implied following the teacher’s instructions. During the PE classes, group and individual activities were designed to be mandatory competition among students unless they were willing to fail the course. The teacher did not engage in discussions about why some students did not like to participate. There were also situations when the teacher assigned non-participating students to theoretical tasks such as taking part in a workshop or doing quizzes.

In summary, students perceived PA at school as rules, competition, and mandatory activities or, as one student put it, they sometimes practice sport: “because they have to.”

In contrast, students perceived PA taking place during leisure time as *juegos* (play/games). Activities performed in leisure time were voluntary and contrary to PE classes, no authoritative person dictated what should be done: “you can do the same exercise, but without following the respective rules needed.” Activities during leisure time were perceived as recreation, and the main goal of recreation was enjoyment: “recreation is for you to have fun.” Although there appeared to be a sharp contrast between PA in PE classes and PA in leisure time, some of the girls considered that sports and recreation were similar practices; what varied was the degree of enjoyment or fun that each person experienced. Girls considered that the activity might be recreational and pleasurable, depending on whether or not the person engaged in sport voluntarily and whether he or she was concerned about personal and social gains from participating.

*Physical activities and obesity.* “If you don’t like sports, you won’t practice them; eating is indispensable.” This quotation nicely captures the essence of students’ perceptions of PA; engaging in PAs was perceived as a choice rather than a

necessity for survival such as eating: “I eat sausages, and fries or eat rice or hamburger with rice, so that helps me to get fat, without that I will die.” The children were aware that obesity was caused by eating too much too frequently, and poor food choices: “It is not knowing how to eat, not knowing how to control food and eating at the wrong time, like saying you must have a schedule for eating, if not you will get fat.” The children perceived eating as essential for life, but often found it difficult to control. Particularly sedentary activities, such as playing on the computer or watching TV, encouraged them to eat due to anxiousness for example:

I get anxious when I am playing on the computer. You stay on it for an hour, playing, then I get very hungry and I open the fridge to look for something. It’s not that I am crazy for sweets and I don’t know how to stop eating them. I have lunch at 1:30 and from around 12:15, I start looking for something in the fridge, and I can’t stop eating, I am just not capable.

Generally, the students were aware of the health risks associated with obesity:

Many times overweight conditions may lead to disease, when you eat too much fatty foods, then the veins will get bogged, and the blood will not circulate the same and also there are many illnesses, you have problems with your needs and all that.

Diseases were also discussed in the male focus group:

You know when you can get a heart attack for being very fat . . . and to today or tomorrow we can get a disease like having too much sugar in the blood or a high blood pressure.

However, students’ personal experiences of being overweight/obese were not centered on health risks, but rather the uncomfortable feelings that were generated by being physically active:

When you get fat and fatter and start to eat and eat, you start getting bigger, getting a bigger body, fatter and start having problems when walking, you have to walk slowly and if you are going to do exercise you will get tired easily, you can be out of breath.

During the performance of PAs, students mentioned that “fat people” would have to be assisted either by a fellow student or by an adult. Being assisted made them feel even more vulnerable because they were also seen as dependent on other people’s help.

The mere experience of performing daily activities caused uncomfortable feelings for some: “They walk very slowly (obese people), it is difficult for them to run or walk long distances; they have trouble getting off buses and taxis.” The struggle would not only cause physical exhaustion but also caused embarrassment as other people would pay attention: “Being fat is noticed. It can be seen on the stomach that you



are fat, your feet are swollen, it can be seen, you just have to look.” Other kinds of worries related to physical appearances were when obese people “start to smell bad” or wearing too tight clothes: “When you are going to put on clothes and it doesn’t fit, it is too tight.”

Although having had many personal experiences of being immobile due to obesity, some students realized that being physically active would likely improve their health and bodily appearance. The girls considered sports as an activity carried out by obese individuals and that those with normal weight would not need this activity because “exercise is for fat people.”

## Discussion

Previous research demonstrated that globally, a competitive sports discourse, in addition to a pedagogy of maximum teacher control with so-called body-centered pedagogies, still dominates the PE teaching (Næss, Säfvenbom, & Standal, 2014; Säfvenbom, Geldorf, & Haugen, 2014; Vlieghe, 2014). This is in line with our findings where we found that children associated PA with sports and competition. PE classes and sports at school were highly associated with obligations and rules and took place within a traditional formal context where students felt they had little influence over the types of activities performed, and in addition, felt demotivated by some teachers. The pedagogy of the classes obeyed traditional teaching practices. Teachers imparted knowledge regarding the type of PA, and students memorized and reproduced it during the practical exercises. Teachers did not participate during the practical moments and did not establish interactions to identify the students’ motives to engage in PA. In general, students experienced that teachers did not consider students’ individual needs as they assigned the same activities without awareness of the knowledge or capacities of each student.

The SDT attempts to explain why people do not engage in PA by distinguishing between different kinds of motivation. (a) Amotivation: a lack of intention to engage in PA, (b) Controlled motivation: being physically active under internal or external pressure, and (c) Autonomous motivation: where PA is performed for reasons of joy, challenge, and/or a wish to improve health (Deforche et al., 2011). Comparing these forms of motivation with the children’s perspectives and practices in this study, it is clear that PAs performed in PE classes are characterized by amotivation and/or controlled motivation.

Delivering exercise programs at school, in an autonomy-supportive manner that provides choices and considers the child’s initiatives, might increase feelings of autonomy among children (Deforche et al., 2011; Lonsdale et al., 2013; Rees et al., 2006). Autonomous motivation is supported by three basic psychological needs: the need for autonomy, the need for competences, and the need for relatedness. To increase autonomous motivation in PE classes, teachers

could consider minimizing pressure and control, offer activities that match the children’s abilities, and support the children by showing them interest, treat them as equals, and encourage them to participate in group activities. This approach might support children’s autonomy, competence, and relatedness, as posited by SDT (Deci, La Guardia, Moller, Scheiner, & Ryan, 2006; Deci & Ryan, 1987).

The declining time for PE observed in the Latin American schools may play an important role in the prevalence of overweight/obesity among Latin American children (Ribeiro et al., 2010). Because students spend large amounts of time at school, there is great potential to increase energy expenditure through school-based interventions and well-structured lessons, providing substantial opportunities for increasing moderate-to-vigorous PA (Kahn et al., 2002). Given that children with overweight/obesity need support and encouragement to exercise, PE in school represents one major context where enjoyment of exercise should be stimulated.

Although SDT carries great potential to address the pedagogical methods used in PE classes, the healthy settings approach would additionally integrate policies and activities outside the PE classes. Health-promoting school programs may, for instance, include initiatives that encourage children with overweight/obesity to be physically active during breaks and after school hours, and integrate topics such as healthy eating, disease prevention, and health promotion into the curriculum (Fairclough & Stratton, 2005; Wanjiru & Flisher, 2004). In this way, PA becomes an integrated part of the whole school system, rather than something relevant only to “fat people,” as some of the children of this study perceived.

It appeared from the data set that the children’s perceptions and practices of PA taking place in leisure time were associated with pleasure. The children generally carried out PA related to enjoyment, games, and recreation in their neighborhoods. According to SDT, it could be argued that in this sphere, the children’s motivation may be labeled *autonomous*. There were, however, other challenges that jeopardized engaging in PA during leisure time. PA in leisure time lacked organization and occurred on an ad hoc basis rather than being a structured routine activity. In addition, the absence of relatives and friends to accompany the children when they performed PA was a crucial obstacle. Finally, the neighborhoods they lived in were characterized as “hot” and not safe to play in freely. Medellin has experienced much violence over the last 60 years, affecting daily life in urban and rural communities (Briceno-Leon, Villaveces, & Concha-Eastman, 2008).

Considering these factors, being motivated, that is, perceiving PA as enjoyable is not sufficient to engage in PA. The obstacles suggest that reasons not to engage in PA lie in the social environment, and it may therefore be fruitful to apply the healthy settings approach (HSA). HSA is a framework that addresses health as an interplay between environmental, organizational, and personal factors and is concerned with developing supportive social contexts in which individuals live their daily lives (Kickbush, 2003).

Developing healthy neighborhoods has been a major concern within HSA because it is well known that there is a correlation between poor health and living in a poor neighborhood (Picket & Pearl, 2001). Attempts to develop healthy neighborhoods include approaches such as strengthening social capital, where residents can benefit from existing resources and mutual trust in their social environment (Warr, 2005); strengthening social coherence that represents common values, social ties, and feelings of connectedness (Ross & Jang, 2000); establishing a healthy environment that consists of good housing quality, clean and safe streets, and access to clean water (Hancock & Duhl, 1986); establishing physical surroundings that facilitate being physically active, for example, by construction of green areas, bicycle lanes, football fields, playgrounds, and so on (Powell, Slater, Chaloupka, & Harper, 2006); and establishing organizational support by local governments, municipalities, local volunteers, and NGOs (Dooris, 2004).

Considering these attempts, it appears from the current study that the children's neighborhoods cannot be classified as "healthy" as they lack safe and secure areas where children can be physically active without being disrupted by criminal gangs.

Moreover, because the children's PA experiences lack organization, social support, and routine, it can be argued that a way forward to promote PA among obese children must include an organizational perspective that can establish and maintain structured PA. Hence, for neighborhoods in the presence of social violence, public policies need to support PA programs in leisure time involving both social networks and school, actively.

In this study, girls and boys associated obesity with disease and disability, that is, obesity meant loss of physical abilities that generated uncomfortable feelings against the realization of PA. Previously, in line with our findings, obesity involves social and cultural issues where children associate an obese body with poor health and disability (Lachal et al., 2013).

The children in this study drew a clear association between obesity and eating habits, whereas they rarely associated obesity with low participation in PA. Obesity was equivalent to being unable to stop eating, and children were aware that obesity might cause illnesses and consequently diminish their level of PA. However, they considered that eating well was essential to survival, whereas exercise was not. Overeating was associated with situations of boredom and anxiety, and with playing computer games or watching TV. The recreational sedentary screen time resulted in students feeling addicted, and they recognized that this is an outstanding factor related to their position of being overweight/obese. However, the opportunity to play on the computer or to watch TV is close, convenient, and safer than engaging in PA outside.

A final obstacle that should be mentioned here is that participants identified academic load as an important factor that

negatively affects PA. They perceived having little time and energy to perform PA before and/or after school. In line with our findings, academic load and lack of time to perform PA were found to be barriers to PA for youth in previous studies (Moore et al., 2010; Rees et al., 2006).

### **Strengths and Limitations**

The strengths of this study lie in the use of multiple interviews and observations to explore overweight/obese children's practices and perceptions of PA, which allowed us to compare what *was said* with what *was done* (Hammersley & Atkinson, 2007). In addition, the data collection and analytical process was performed by two researchers who allowed engagement in ongoing discussions concerning coding and data interpretation (Malterud, 2001). Finally, the use of the theoretical frameworks, SDT, and the healthy settings approach enabled us to compare our analysis with a holistic orientation that enhanced interpretations of motivational factors inherent in children's everyday settings, that is, the school setting and the neighborhood.

Being aware that a researcher's theoretical, professional, and personal preconceptions affect the entire research process, from design to writing up reports, we acknowledge that knowledge is partial and positioned and that other researchers in all probability would have presented different results (Green & Thorogood, 2009; Harraway, 1991).

Differences between the younger and older participants and between boys and girls were not addressed in this study as separate analytical categories. We propose that future studies explicitly investigate gender and age differences to identify barriers and motivations to perform PA specifically related to age and gender.

A limitation to this study is that the findings present the perspectives of children with low SES, from the urban region of Antioquia, which could differ from those of other children with higher SESs or from rural areas. In addition, the school at which the study was performed had appropriate facilities, infrastructure, and teachers for teaching different sports, which are not usual conditions for a public school in Colombia. The transferability of the study findings to other settings should therefore carefully evaluate the context to detect socioeconomic, political, and cultural differences (Malterud, 2001).

### **Conclusion**

Using a more participatory pedagogic approach in PE classes might enhance students' autonomy and competence and should promote exercise enjoyment in children who are overweight/obese. Motivating children to better engage in PA requires adjusting PE classes to students' preferences and needs, and providing experiences of enjoyable competition. If these elements are included within a structured environment and with additional social support, levels of

self-determined motivation for PA may be increased. Children associated obesity with eating habits, rather than with sedentary lifestyles or lack of PA. Apart from the need to increase PA, these perceptions also suggest the need to target parents and educate them to promote healthy PA habits in their children. Moreover, this study illustrated that non-supportive environments in socially deprived neighborhoods impede outdoor PA practices in the leisure time of children with overweight/obesity.

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