What Young Children Identify as the Outcomes of their Participation in Sport and Physical Activity

ABSTRACT

Objectives: The purpose of this study was to investigate what young children considered as being the outcomes of their participation in sport and physical activity. **Methods:** This study adopted a drawing elicitation method with 80 children (42 boys and 38 girls) aged 7-10 from two primary schools in the North of England. **Results:** Regardless of sex, 'getting fitter' was considered a main outcome of participation in sport and physical activity. Boys also identified 'becoming muscular' as a main outcome, while girls considered 'making new friends' as a main outcome. **Conclusions:** Parents, teacher, and coaches who are responsible for constructing sport and physical activity experiences for children need to ensure children are given opportunities to learn about the outcomes of sport and physical activity.

Key words: *children, physical activity, sport, school,* qualitative

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Despite the recognized public health and economic benefits of regular physical activity, as well as the harmful consequences of sedentary lifestyles,[1,2] a significant proportion of people in the developed and increasingly the developing world remain irregularly active.[3] In light of this situation, the continued development and expansion of evidence-based approaches that positively influence physical activity participation have remained elusive.[4,5] Children have become a particular cause for concern, for policymakers and practitioners alike.[6,7] Many children are insufficiently active to reap the health benefits associated with regular physical activity. For example, a recent Canadian national survey estimated that only 9% of boys and 4% of girls between the ages of six to nineteen met the current recommendations.[8] Likewise, data from the US showed that more than half of the children surveyed were insufficiently active for health benefits to be realized.[9] The Eurobarometer survey reported that 30% of Europeans never engage in physical activity such as cycling from one place to another, dancing or gardening, and in 8 European countries less than half the population exercise or play sports once a week.[10] The urgency of action to address the physical inactivity pandemic is now unarguable, and in 2013, the World Health Organization (WHO) called for public education campaigns, through large-scale, evidence-based communication.[11]

The evident severity of this situation has led to a raft of policy-based initiatives.[10,12] To date, however, interventions to improve children's activity levels have produced very modest results.[13,14] A systematic review of literature [15] identified that one reason why behavior change does not occur beyond the initial period is because people do not recognize the outcomes associated with the behavior they are trying to change, and thus lose motivation. Therefore, it is important to develop an understanding of what children consider

as the outcomes of sports and physical activity, as this may offer some explanation of whether children are likely to regularly take part and realize the associated benefits.

It has been argued that greater awareness of the positive outcomes of active lifestyles and the costs of inactivity will increase the likelihood that politicians, policymakers, practitioners, and parents will invest sufficient resources to facilitate significantly increased levels of physical activity.[16] Consequently, outcome-oriented reviews have been commissioned by international[17,18] and national agencies.[19] Some reviews have focused on specific aspects of children's development, such as physical health,[20] and psychological and social well-being,[21] while others have examined specific contexts for activity, such as physical education[22] and youth sports.[23]

Generally speaking, discussions of the benefits of physical activity have focused on physical health and physical disease. The "Exercise is Medicine" campaign[24] is an example of an evidence-based initiative that focuses on the contribution that activity can make to physical health and specifically to combat physical ill-health. A small number of programs, however, have sought to offer more holistic messages about physical activity. A good example of this is the Change4Life campaign, which was launched in the United Kingdom (UK) in the summer of 2015 with a focus on promoting physical activity to children. A "rapid evidence review" of the physiological, psychological, social, and behavioral outcomes of physical activity participation among children aged 5 – 11 years was used to summarize the available evidence, and provide an indication of the strength of the evidence for each outcome.[25]

The HCM[16,26] was a more comprehensive framework for thinking about the outcomes and processes of physical activity. Underlying the model is a claim that the stock

of competencies, knowledge and personal attributes are embodied in the ability to participate in physical activity, and that these activities produce values that are realized through increased well-being, educational achievement, economic value, and so on. This model conceptualized development in terms of different forms of 'capital': Physical Capital (direct benefits to physical health and positive influences on healthy behaviors); Emotional Capital (psychological and mental health benefits); Individual Capital (life skills, interpersonal skills, values that accrue through participation); Social Capital (outcomes that arise when networks between people, groups, organizations, and civil society are strengthened); Intellectual Capital (cognitive and educational gains that are linked to participation); Financial Capital (gains in terms of earning power, job performance, productivity and job attainment, alongside reduced costs of health care and absenteeism/presenteeism).

Scientific models like the HCM are useful in articulating the knowledge base in a particular domain, but a wealth of evidence has amassed demonstrating that such constructs hold relatively limited influence over the behavior of people in their daily lives.[27] In this regard, an important distinction needs to be made between scientific or "explicit" theories, which are the constructions of researchers, and those constructions of the general public, which are described variously as lay theories,[28] folk psychology,[29] and implicit theories.[30] These implicit theories are "constructions of people … that reside in the minds of these individuals. Such theories need to be discovered rather than invented because they already exist, in some form, in people's heads".[31] In other words, explicit theories are a posteriori or reasoned explanations of behavior; implicit theories are a priori.[32] So, while it is without doubt that there are many positive outcomes associated with engagement in sports and physical activity, it is not well known if children are able to recognize these.

Implicit theories associated with physical activity have been under-researched, and many of these studies have been of adults' views and in the context of physical education or sport, rather than physical activity, per se.[33,34] In particular, research into children's experiences and perceptions of physical activity is under-developed,[35] and does not offer a satisfactory basis for action. Children's perceptions of the outcomes of active lifestyles are nascent, but there is a need to gain a more mature understanding.[36]

Children's beliefs and expectations are still developing.[37] If these beliefs can be impacted before they become more stable and thus resistant to change, there is an increased likelihood that positive attitudes toward sports and physical activity will develop.[38] Of the variables that have been suggested to impact perceptions of the benefits of physical activity, one especially warrants further enquiry. Sex has frequently been identified as a mediator of physical levels.[39] Studies with adolescents suggest that girls and boys tend to hold different understandings of the benefits and barriers of activity,[40,41] although the relationship between such perceptions and participation is unknown. To date, empirical studies of perceptions of the outcome of activity have focused on young people, rather than young children. As has been outlined, however, it is important to understand children's perceptions at the earliest possible opportunity, given that sport and physical activity habits are formed early in people's lives.

In this context, qualitative research can prove to be useful in complementing existing research by offering details of the contexts and interactions that might influence participation.[42] Therefore, the purpose of this study is to investigate, using qualitative methods, what children consider as being the outcomes of taking part in sport and physical activity.

METHODS

Subjects

Eighty children (42 boys, 38 girls) aged 7-10 years from two primary schools (40 children from each school) from the north of England returned informed parental consent and child assent to participate in the research. Data generation took place at the schools within the time of a normal school day.

Instrumentation and Procedure

Questionnaires and interviews have been the predominant methods in studies of adolescents' or adults' perceptions and experiences. When children are the focus of study, however, these methods are rarely appropriate.[44] It has been suggested that in order to portray the authentic views and feelings of children, alternative methods, such as drawings and photographs should be utilized followed by conversation-style focus group interviews.[45] The reasons for this are that these methods re-position children as active agents where research is generated *with* children, rather than *on* children.[46]

To generate in-depth data using a drawing elicitation method, rapport needed to be built and guidance needed to be developed that clearly explained the task.[46,47] Based on the authors' experiences and expertise of employing this method in previous work, a four-stage process was followed, as detailed:

1. Each child was given an information letter outlining in age-appropriate language that they were invited to draw a picture or pictures of things, either good or bad, that they thought happened when taking part in sports or physical activity. The children were given time to read the letter before the first author provided verbal guidance, which reiterated what was on the information sheets. During this stage, the children were

encouraged to ask any questions to clarify what was requested. The research team also used this as an opportunity to have informal conversations with the subjects, and so used it as a familiarization process.

2. The children were assured that the number of pictures they drew, and what they decided to draw, was entirely up to them, with there being no right or wrong answer. It was stressed, however, that this was an individual exercise, and they were asked not to get help from peers or adults (ie, teachers or parents).
3. It was made clear to the children that it was up to them whether they wanted to draw any drawings and then talk about these. If the children did not want to engage in this task it was made clear to them that they would not be disadvantaged in any way.
4. After the children had completed their drawings, they were informed that they would be asked to talk about what they had drawn so that the research team could better understand what was meant by the drawings.

In order to minimize the risk of time pressures and adult-pleasing,[48] the subjects were given one week to complete their drawings from the initial instructions given, away from the research team. They were then organized into focus groups of five, which is consistent with the recommended range when conducting focus groups with children of this age.[49] The children were grouped based on their age and school class. Within these focus groups, the children were asked to first talk about their drawings, before more general conversations about what children considered outcomes of taking part in sports and physical activity. The questioning route was reviewed for structure, content and expected length by the research team and a panel of early childhood specialists. This panel was made up of three colleagues

169 who had experience of teaching or otherwise working with children of this age. In addition,
170 the second author was an early years teacher in a previous life. The first author facilitated
171 the discussion supported by a trained and experienced research assistant (fourth author). The
172 discussions were recorded and transcribed verbatim. Each focus group lasted between 15-25
173 minutes (mean = 18 minutes 54 seconds), with 16 focus groups conducted in total.
174
175 **Data Analysis**
176 Data were analyzed using two different techniques. First, data were analyzed
177 abductively, which is a process of first analyzing data deductively against the objectives of
178 the study, and then inductively based on the themes generated by focus group discussions.
179 Inductive analysis is the method of identifying, analyzing and reporting themes from
180 specific comments on individual subjects, and is one the most commonly used and accepted
181 methods of analysis in the social sciences.[50] The children's drawings were not analyzed
182 independently, as there was a risk that they could be misinterpreted.
183 The second method of analysis used a pen profile technique, as used in other research
184 of this nature.[43,47] This meant that every time a code was identified, it was related to the
185 appropriate theme. This resulted in a numerical value for each second-order theme. It was
186 often the case that each child identified more than one theme through their drawings, which
187 explains why the total numbers for figure 1 equate to a number much higher than the number
188 of children who were involved in this study.
189 The Principal Investigator was involved in all data collection, and the process of
190 familiarization occurred from the very start of the research process. Drawing upon the
191 expertise of Primary school teachers who had facilitated the data collection, further assisted

this. The Principal Investigator and Co- Investigator undertook the second and third phases of generating initial codes and searching for themes independently. This was to ensure that this process was as transparent as possible. To aid this further, a third colleague, independent of the study, analyzed a sample of the interview transcripts. After this, themes were reviewed and named. To ensure focus group data corresponded with each child's drawing and to ensure anonymity of data, an ID number was assigned to each drawing, and then to each focus group transcript.

RESULTS

Insert table 1 here

Children perceived the outcomes of sport and physical activity to be overwhelmingly positive. Analysis of data revealed that children identified three positive themes that related to social aspects (making new friends, developing teamwork, developing sportsmanship), five related to psychological (makes you happy, sense of achievement, makes you feel good, cognitive development, increases confidence), and five related to physical aspects (getting fitter, becoming muscular, healthy body learning, sport-specific skills, and losing weight). Children identified two negative themes related to social aspects (dropout because of inappropriate teacher/coach behavior, and arguing with friends) and one related to physical (injury).

Insert figure 1 here

In total, second order themes that related to the first order theme of physical aspects were identified most (N=77), followed by psychological aspects (N=39) and then social aspects (N=38). The second order theme of 'getting fitter' was identified most by boys (N=16), while 'making new friends' was identified most by girls (N=18).

Insert figure 2 here

In total, second order themes that related to the first order theme of social aspects were identified most (N=20), followed by physical aspects (N=8). The second order theme of 'dropout because of inappropriate teacher/coach behavior' was identified most by boys and girls.

DISCUSSION

The children in this sample perceived there to be a range of positive outcomes associated with taking part in sports and physical activity. These outcomes were not, however, given in equal weighting. Generally, and as evidenced in Figure 1, children, regardless of sex, reported outcomes related to physical aspects of participation in sports and physical activity more than they did outcomes related to social or psychological. Re-analysis, however, showed a more complex picture where boys and girls differentially identified outcomes. The second order themes indicated that girls identified the main outcomes of sports and physical activity as *'making new friends'* (see drawing 1) and *'getting fitter'* (see drawing 2), while boys considered these as *'getting fitter'* (see drawing 4) and *'becoming muscular'* (see drawing 4).

Insert drawing 1 here

Insert drawing 2 here

Insert drawing 3 here

Insert drawing 4 here

The perception from boys and girls that *'getting fitter'* is a main outcome of participation in sports and physical activity is perhaps unsurprising given that health and fitness messages have traditionally been at the center of government policy initiatives, particularly related to Primary PE. For example, the aims of the National Curriculum for Physical Education (NCPE) in England are focused on ensuring children develop in the physical domain. This might be in response to the central government's school inspection agency's earlier criticisms that schools were not sufficiently challenging children to improve their physical fitness, and that there were insufficient periods of moderate to vigorous physical activity occurring during PE lessons.[51] Either way, it would seem that there are expectations of teachers that they promote higher levels of physical activity within and after the school day, and that they communicate this to children as a matter of greater importance.

Differences emerged between boys and girls in what they perceived as the other main outcomes. For boys, this was *'becoming muscular'* (see drawing 3), while for girls it was *'making new friends'* (see drawing 4). Some girls believed a *'healthy body'* was developed as a consequence of participation in sports and physical activity, but this was more in reference to preventing illness and disease, than body shape. A reason for this may have been because the age of the children in this study was lower than in earlier studies, and younger children are likely to have stereotypical, but less culturally bound conceptions of body judgments. Specifically, boys considered the ideal body to be represented by strength

and large muscles,[52] and thus recognized these as outcomes that could be developed through engagement with sports and physical activity. The practical implications of this are significant. For example, it has been highlighted[53] those children who were skilled at sports often considered themselves to have a positive body image compared with lower skills children, who did not view their bodies so favorably.

Social factors are powerful motivations for children's participation in recreational activities, especially for girls.[54] This includes the influence of adults, such as parents, teachers and coaches, but also of peers. While the present study was conducted with a younger age group than in earlier studies, it would appear that social interaction is an important factor for younger girls, too, and is something that they associate as an outcome of taking part in sports and physical activity. Indeed, it has been contended that physical activity could provide an appropriate setting for the development of peer relationships,[55] and this relationship might be reciprocal, as friendships are associated with the development of self-worth, positive attitudes toward physical activity, and an increased likelihood of continued participation.[56] Based on this, and other evidence, children need to be made better aware of the social and psychological benefits of engaging in regular physical activity, as this could serve to prompt their participation.

While the children were able to identify many other outcomes, the extent to which children were able to recognize these was not as high. This was especially the case for almost all of the psychological outcomes, as figure 1 demonstrates. For example, no boys and only three girls thought that participation in sports and physical activity led to *increases in their confidence*. Furthermore, few children were able to recognize that sports and physical activity could impact *cognitive development*, or that a *sense of achievement* was felt

as a consequence of taking part in such activities. It was a similar story for the social outcomes of *developing sportsmanship* (Gendered language was generally avoided throughout this study, however it was advised by our group of early year specialists that the children would not be familiar with the non-gendered term 'sportspersonship') and *developing teamwork*. Considerations that sports and physical activity made *you feel good* were also barely acknowledged, however, there was a greater appreciation from both boys and girls that sports and physical activity *makes you happy*.

CONCLUSION

In the most part, aspects of explicit theories of sports and physical activity and their potential to contribute to children's holistic development are not being realized. As argued throughout this paper, this may be problematic as there is a suggested association between children's ability to identify outcomes of sports and physical activity, and their motivation to participate in these endeavors.

There are some plausible reasons for this. First, given the ever-increasing obesity crisis and the need to increase people's levels of physical activity, it could be claimed that traditional sporting values such as the development of teamwork and sportsmanship are becoming marginalized, or even lost altogether. In other words, the agenda seems to be focused firmly toward getting more people active and doing sports and physical activity for the purpose of creating physically healthier nations. Unfortunately, and as has been identified,[15] for behavior change to occur, thus making physical activity a part of a person's daily routine, there must be a motivation to want to participate because the person sees value

or gains enjoyment from it. Simply stating that people need to do more physical activity will not result in an increase.

Second, the extent to which children become aware of the outcomes related to sports and physical activity are in part due to the messages conveyed by teachers, parents and coaches, and the opportunities they provide children to develop a range of outcomes. Children will recognize some outcomes through experiencing these (ie, how it makes you feel), however, the extent to which these experiences are positive will depend on the expertise of key stakeholders in structuring the sports and physical activity environment.[57] Indeed, it was identified by some children in this study that a negative outcome of taking part in sports and physical activity was the behavior of teachers and coaches. So, while evidence does exist that shows sports and physical activity to have wide ranging benefits to people's lives, it is the case that for children, significant influencers are gatekeepers to such benefits.

IMPLICATIONS FOR HEALTH BEHAVIOR OR POLICY

Research with young people and adults suggests that knowledge of the potential benefits of participation can be an important mediating factor influencing people's motivation to engage in physical activity and sport. It is plausible, at least, that questions of physical activity outcomes can be profitably addressed during the early years of childhood, when the foundation of health behaviors are established. The findings from this study suggest that the benefits associated with regular physical activity and sport participation should be better communicated to children via schools, sports teams, and homes via teachers, coaches and parents. Indeed, the role these social influencers play in influencing

children's participation in physical activity and sport is significant and needs considering. This study has demonstrated that steps are required to better educate each of these groups of people to ensure that physical activity and sporting learning environments encourage and foster long-term participation. While not an exhaustive list, ways in which these groups can do this are:

- Measure success based on the effort children put in rather than the outcome of a skill attempt.
- Do not compare one child's performance or success with another child's.
- Maximise individual feedback and individual goal setting.
- Ensure the balance of feedback is weighted toward being positive, but honest.
- Structure learning opportunities that allow children to engage in activities they find enjoyable and meaningful.
- Restrict the level of prescription in terms of how a skill should be attempted.

None of the foregoing discussion should be read as making a case for an entirely instrumental, or goal-orientated, view of sports and physical activity. Sports, in particular, inherently value the results of participation rather than just the process of playing,[58] and it is probably impossible to separate instrumental thinking from human activities entirely. All forms of physical activity are connected with basic facts of our existence and the need to fulfil our everyday needs. However, it is important to acknowledge that such values do not exhaust the appeal of sports and physical activity. For children, in particular, it is often impossible to demarcate the means and ends of participation in meaningful activities.[57] Fun, enjoyment and the inherent pleasure of moving and playing are the driving forces of young children's sustained activity, and this fundamental point needs to be remembered at all points

of the planning and delivery of programs. Indeed, it is by starting from the intrinsic value that children place on sports and physical activity that the impressive range of outcomes of participation are most likely to be realized.

Human Subjects Approval Statement

The first author's institutional ethics board granted full ethical approval for this study.

Conflict of interest disclosure statement

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509 **Table 1. What young children identified as the outcomes of their participation in sport and physical activity**

Positive Outcomes		
First order themes	Second order themes	Example quotes
Social	1) Making new friends	*"I've met two girls at dog training called Megan and (name not clear) and I'm all best friends with them" (Year 4, Girl)*
	2) Developing sportsmanship	*"If you lose then you are not shouting at the other team. You shake hands and you, you are like friendly with, even if you have lost or if you have win you are not showing off, you are just kind" (Year 6, Girl)*
	3) Developing teamwork	*"I also think it helps you with your team work and to corporate other people so it helps you to like work better in a group" (Year 4, Girl)*
Psychological	1) Cognitive development	*"I drew a brain, because, urm, when you exercise it helps motivate your brain and stimulate it" (Year 6, Boy)*
	2) Sense of achievement	*"Well I do ice skating and like when you've passed a level you like feel proud of yourself and you want to keep passing levels and not give up" (Year 6, Girl)*
	3) Makes you happy	*"I've chosen football because it makes me happy and makes me playful – just the taking part" (Year 5, Boy)*
	4) Makes you feel good	*"It feels really good when you make a good tackle its like one of the best feeling you'll have. It is kind of like a rush" (Year 5, Girl)*
	5) Increases confidence	*"Confidence cause usually I can't like hold a ball in one hand so I usually try and throw it but I kept on doing it and now I kind of can actually do" (Year 4, Girl)*

Physical	1) Learning sport-specific skills	*"I've been doing it for two years and it's, I've really improved and I would like to get better" (Year 5, Boy)*
	2) Losing weight	*"It's a good thing to play sport because you lose a lot of weight" (Year 4, Girl)*
	3) Healthy body	*"Apparently you are less likely to get diseases and everything if you are fit and healthy" (Year 6, Girl)*
	4) Getting fitter	*"I have kind of drawn like someone who is unfit and as they do more exercise you get fitter" (Year 3, Boy)*
	5) Becoming muscular	*"I drew, like a before and after thing, like the before someone crying, like can't lift a weight up, and then on the after one I did someone who could lift a weight up with big muscles" (Year 6, Boy)*
Negative outcomes		
Social	1) Dropout because of inappropriate teacher/coach behavior	*"I've stopped swimming lessons cause my teacher was really, really, really strict. If I did it wrong she told me off" (Year 5, Boy)*
	2) Arguing with friends	*"Sometimes in like competitive sports and stuff it can make people like two people angrier with each other" (Year 4, Boy)*
Physical	1) Injury	*"Bad things are you sometimes you get injuries and then you can't play or do much at all" (Year 3, Boy)*

Figure 1 Pen profile for what children consider as the positive outcomes of taking part in sport and physical activity

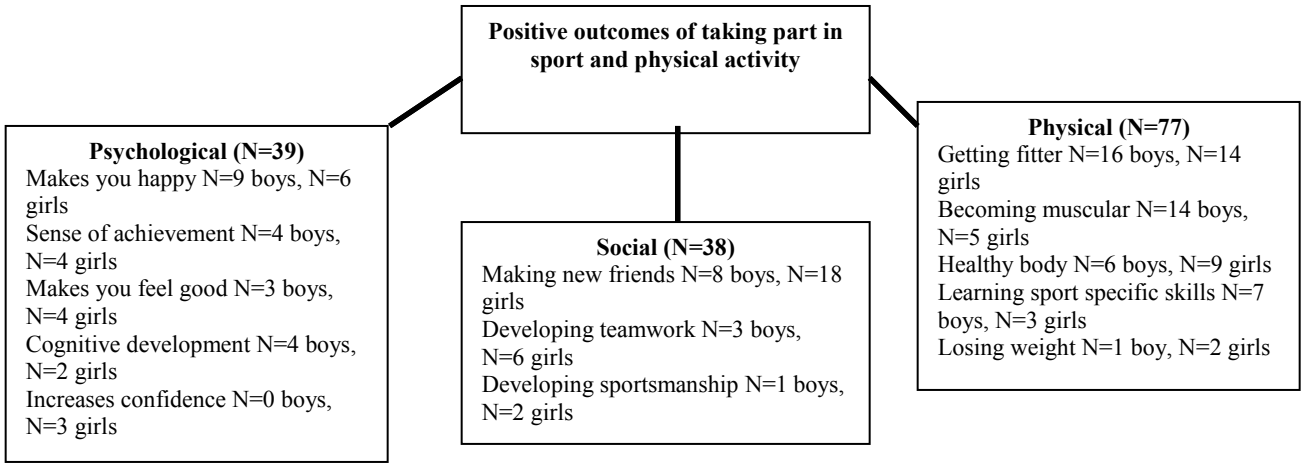
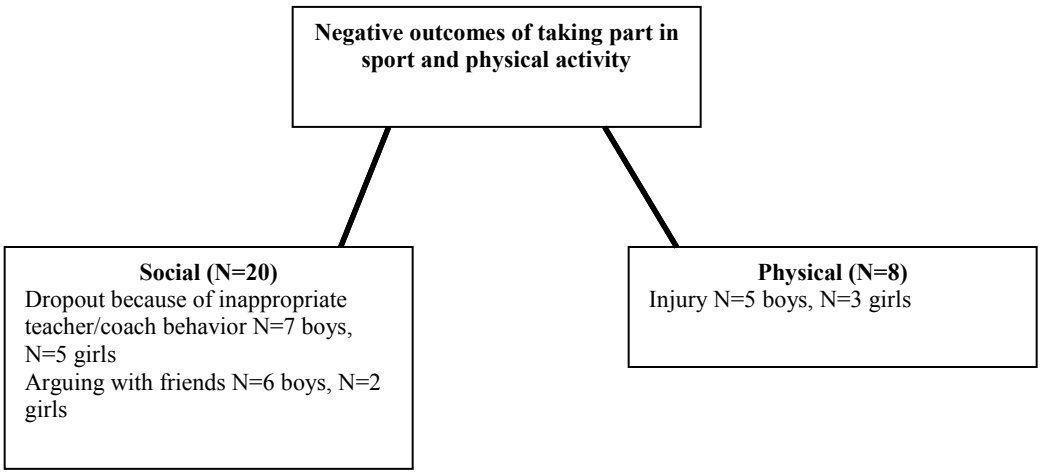


Figure 2 Pen profile for what children consider as the negative outcomes of taking part in sport and physical activity



554 Drawing 1 - Children Making New Friends

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558 Drawing 2 - Getting Fitter

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561 Drawing 3 - Getting Fitter
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566 Drawing 4 – Becoming Muscular

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