The contribution of club participation to adolescent health: evidence from 6 countries
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What is already known on this subject?
There is some evidence that participation in clubs can enhance health status, however in the main current evidence relates to adult populations..

What does this study add?
This paper builds on the existing evidence in two ways. Firstly it broadens the existing evidence base by exploring the relationship between club participation and young people’s health. Secondly it uses data from different countries to test whether the relationships hold in different contexts. The study is also original as it explores the associations between different clubs and health and its related behaviours. The results are helpful to policy makers by confirming the need to increase the possibilities for participation at an early age and for providing some hints as to the potential for involvement in different types of clubs..

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Title: The contribution of club participation to adolescent health: evidence from 6 countries

Abstract

Background – Social networks have been recognised as an important factor for enhancing the health of people and communities. Bridging social capital, characterised by numerous and varied weak ties, exemplifies a particular type of network which can help people reach their goals and improve their health. This paper seeks to contribute to the evidence base on the use of positive social networks for young people’s health by exploring the importance of club participation in predicting the health and health related behaviours of 15 year old girls and boys across Europe and North America.

Methods – Data derive from the 2005-06 WHO collaborative “Health Behaviour in School-aged Children (HBSC)” study to establish the relationships between different types of club and a range of health outcomes (self perceived health, wellbeing and symptoms) and health related behaviours (smoking, drinking). We used multi-level logistic regression to assess the independent effects of club participation by controlling for gender and socio-economic position. We compared data across 6 countries to explore the consistency of the relationships found.

Results – All the considered outcomes, both in terms of perceived health and wellbeing and health behaviours were associated with participation in formal associations. The associations are in the expected direction (participating corresponding to better health) except for some particular association types, but participating in any whichever association, or more than one, is always correlated with better health.

Conclusions – Participation in formal associations seems supportive for good health and health behaviours in adolescence, and should be promoted in this age group.

Introduction

Social approaches to improving health and reducing health inequalities are currently high on the agenda. Recent reports by WHO set out a systematic approach to understanding and acting on the social determinants of health. They highlight the need to understand the socially determined conditions where people grow, live, work and age. This paper aims to contribute to this goal by investigating the relative importance of young people’s participation in clubs and organisations, in doing so it contributes to the evidence base on approaches to addressing the social determinants of health.

Whilst some argue that health is equalised in adolescence, the recent international report of the WHO Health Behaviour in School Aged Children highlights that in 2005/6 there were large inequalities in young people’s health and health-related behaviours across Europe and North America and strong relationships between adolescents’ health and the socioeconomic status of their families.

The concept of ‘social capital’ has been put forward as a construct which can help to explain these relationships, but its multi-faceted nature has caused some difficulties in assessing its role and potential. In part these difficulties arise because its components cut across many pre-existing concepts: sense of community, sociability, social networking, civic engagement etc. Morgan and Swann argue that for social capital to be useful, further empirical work needs to be carried out on its constituent parts towards a theory of how to build social capital for improved, sustained and more equal health for all in the future.

Aldridge and Halpern have argued that individuals have needs for different types of social capital at different points in their lives. Two such types are bridging and bonding social capital: Bonding social capital refers notionally to those strong inward looking ties that are characterised by homogeneous groups linking people of the same gender, age or race. Whereas bridging social...
capital refers to weaker and more diverse ties linking similar people at the same level of hierarchy. Most research on social capital focuses on bonding social capital referring to strong ties in the community providing a means to health through social support. The notion of bridging social capital fits with Granovetter’s9 10 which suggests that weak ties are an important resource in making possible mobility opportunities, allowing individuals to accumulate a broader set of connections gaining mutual respect and social inclusion. Kim and colleagues11 studied the relationship between bonding social capital and bridging social capital on health and found that both were important, however according to Granovetter9 10 the benefits of weak ties as a social resource have much more potential for health than strong and lasting ties. Weak ties are important to individual health as they can open up access to a wide range and amount of information, access to services and other resources, whilst strong bonding networks tend to be more inward looking and in particular cases they can produce harmful effects12. Many authors have highlighted the importance of weak ties. Bourdieu expresses the use of weak ties in building elites13; Putnam14 and Kawachi15 promote them as a way of building integrated multi-cultural communities; and Berkman16 and Swann17 explicitly introduce the concept in the context of action on the social determinants of health by highlighting how promoting weak ties can enhance individual social skills and resources and community integration across different groups. According to Bronfenbrenner's18 theory of human development, child environment is conceived as a set of nested structures representing the microsystem, mesosystem, exosystem and macrosystem – using this framework, young people’s participation in clubs may be seen as a way of extending the mesosystem (a set of interconnecting environments). Bourdieu13 19 20, with his construct of habitus, purports that those in higher social classes are more likely to encourage participation in structured groups. Participation in associations and structured groups has already been used as a measure of social integration and a resource for health16 21 suggesting that club participation can be a resource for building larger and more diverse networks, which can promote a sense of belonging beyond the usual familial and everyday groups. This paper aims to test whether young people’s participation in clubs is associated with better health and healthier behaviours and whether these associations are modified by the social position of adolescents. Increasing our knowledge about the benefits of club participation can contribute to the evidence base on the relative importance of bonding and bridging social capital – or at least be clearer about in what circumstances one maybe more relevant than the other.

Methods
We used data from the 2005-06 ‘Health Behaviour in School-aged Children (HBSC)’ study to establish the relationships between different types of club and a range of health (self perceived health and wellbeing and symptoms) and health related behaviours (smoking, drinking). This is an international WHO collaborative study about health status, health behaviours and their socio-economic determinants in school aged children, carried out through self-administered questionnaires. Questionnaires are administered in schools to 11, 13 and 15 year old children in each of the 41 participating countries; samples are representative of the populations in those age groups with 95%C.I. of +/- 3%, mean sample size of about 1500 children per age group. The sampling unit is the school, we therefore have a two level cluster sample (pupils in schools in countries). Of the 41 HBSC countries, only 6 included the optional package of questions relating to club participation in their national survey and some of them only for 15 year old boys and girls – therefore only data from these countries have been included in the study. Measures Participation in clubs - Participate (yes or no) in different kinds of associations: sport club, voluntary service, political associations, cultural associations, church groups, youth clubs, others. Item recoded into a three categories variable: no association, one, two or more.
Family affluence scale (FAS) – It is used as a measure of socio-economic position. It comprises 4 items: “Does your family own a car, van or truck?” (no; yes; yes, two or more); “Do you have your own bedroom for yourself?” (no; yes); “During the past 12 months, how many times did you travel away on holiday with your family?” (not at all; once; twice; more than twice); “How many computers does your family own?” (none; one; two; more than two). The final FAS scale, created by the sum of these scores, is then divided into three levels: low, medium, high.

Perceived Health - Children ranked their health status on a four point scale, recoded into: “excellent” versus all the rest.

Well being - Cantrill Ladder: it assesses how satisfied the respondents are with their life on an eleven point scale (0 to 10). A dichotomous variable was used – those scoring 7 and above considered to be satisfied with their lives.

Symptoms - The HBSC Symptom Check List (HBSC-SCL) was administered: how often respondents experience one or more of the eight items list: headache, stomach-ache, back ache, feeling low, irritability or bad temper, feeling nervous, difficulties in getting to sleep, and feeling dizzy. Response categories: about every day; more than once a week; about every week; about every month; and rarely or never. Haugland & Wold reported high test-retest reliability of the eight items and qualitative analyses showed acceptable validity. Hetland et al. 2002 demonstrated that HBSC-SCL has two distinct subscales on physical and psychological symptoms but that it is also valid as a one-dimensional construct. For the purposes of this paper, a single dichotomous variable was created: at least one symptom at least once a week and less than this.

Smoking - “How often do you smoke tobacco at present?”. Possible responses: “every day”, “at least once a week, but not every day”, “less than once a week” or “never” and were recoded into “smokers” (every day) and “non-smokers”.

Alcohol - “How often have you been drunk”, response option: “never”, “once”, ‘2-3 times”, “4-10 times” and “more than 10 times”, recoded into “less than twice”, versus “twice or more”.

Healthy diet - How often respondents ate fruit and vegetables (never through every day and more than once a day), recoded into a dichotomous variable (daily fruit and vegetables intake; less than daily). A variable on soft sugary drinks is made up in the same way.

Physical Activity – “On how many days in the past week were you physically active for 60 minutes or more” (0 days up to “7 days”). The dichotomous variable created was: physically active for less than 5 days a week vs more than that.

TV Watching – How many hours children usually watched television, responses categories were “none at all”, “about half an hour a day”, “about 1 hour a day”, “about 2 hours a day” up to “about 7 or more hours a day”. Recoded into: “≤2 hours a day” versus more

Analysis

Multilevel logistic regression analyses were conducted with adolescents nested within schools within countries (three-level random intercept model). For each outcome variable a separate model was fitted with club participation as independent variable and controlling for gender and FAS. MLwiN 2.02 software was used.

Results

A description of the sample’s characteristics is summarised in Table 1. The distribution of FAS is as expected from the national economies: high FAS is more represented in England (59.1% of boys, 54.6% of girls) and Canada (52.8% and 49.9%), less represented in Romania (14.7% and 8.66%).

<table>
<thead>
<tr>
<th></th>
<th>Fl. Belgium</th>
<th>Canada</th>
<th>England</th>
<th>Italy</th>
<th>Poland</th>
<th>Romania</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low FAS</td>
<td>n</td>
<td>74</td>
<td>86</td>
<td>50</td>
<td>122</td>
<td>330</td>
<td>247</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>9.67</td>
<td>8.17</td>
<td>7.58</td>
<td>18.37</td>
<td>30.73</td>
<td>42.59</td>
</tr>
<tr>
<td>Medium FAS</td>
<td>n</td>
<td>312</td>
<td>411</td>
<td>220</td>
<td>318</td>
<td>464</td>
<td>248</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>40.78</td>
<td>39.03</td>
<td>33.33</td>
<td>47.89</td>
<td>43.20</td>
<td>42.76</td>
</tr>
<tr>
<td>High FAS</td>
<td>n</td>
<td>379</td>
<td>556</td>
<td>390</td>
<td>224</td>
<td>280</td>
<td>85</td>
</tr>
</tbody>
</table>

Table 1 – Sample description (total HBSC): distribution of the sample in countries by gender and FAS
Table 2 shows the proportion of adolescents participating in each type of club. Participation in sports clubs is by far the most popular everywhere: from 57.2% in Flemish Belgium to 18.9% in Romania. Voluntary service is higher in Canada (22.4%) compared to all other countries, England being the next highest with only 13.4%; being involved in political organisations is low, the highest being in Poland (8.3%), no other country reaches higher than 4%; Polish adolescents also score higher in membership of cultural organisations (36.6%), whilst in other countries it is between 10% and 16%; the highest participation rate in church groups is in Italy and Poland (more than 17%) whereas in Belgium (3.9%) it is much lower and in other countries between 12-14%. Youth clubs are most popular in Flemish Belgium (25.5%), followed by England, Italy and Romania, all around 20%, Canada and then Poland around 10-15%. Almost a third (32.7%) of English adolescents and 22.9% of Romanian ones selected the ‘other clubs or associations’ but much fewer in other countries (between 10-12%). Non participation is higher in Canada, England, Italy and Poland (around 30%), then Belgium (20.7%) and lastly Romania at 16.0%.

In Romania and Belgium, there is a higher tendency for adolescents to be involved in just one association (between 45 and 50%), where in Canada, England, Italy and Poland this figure is less (32 and 39%). However the percentage of adolescents who participate in more than one association is consistent across all countries, ranging from 28.5% in Italy to 37.5% in Romania.
Table 3 summarises the effects of gender and family affluence (FAS) on participation prevalence. FAS differences are significant for every kind of association but more pronounced for sport clubs: 22.5% in low FAS children, 39.3% in middle and 55.3% in the high FAS group. In addition, those who participate in more than one club are likely to come from wealthier families: 39.8% (High FAS) compared to medium FAS (31.9%) and low FAS (29.0%). Over a third (35.4%) of adolescents belonging to low FAS families do not participate at all in clubs or associations compared with a fifth (21.5%) belonging to high FAS families.

There are strong gender differences for sport clubs (51.1% boys; 33.3% girls), whereas girls are more likely to participate in voluntary service (16.0% vs 10.0%) and cultural associations (22.0% vs 15.2%).

Table 3 – Participation in different kinds and number of clubs by gender and FAS (for each type of association it is reported how many children answered that they participate in it; last three rows, the number of associations is treated separately and is mutually exclusive with respect to one another)

<table>
<thead>
<tr>
<th>FAS</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Sport clubs*</td>
<td>n</td>
<td>279</td>
<td>920</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>32.44</td>
<td>48.99</td>
</tr>
<tr>
<td>Voluntary service*</td>
<td>n</td>
<td>61</td>
<td>152</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>7.27</td>
<td>8.31</td>
</tr>
<tr>
<td>Political org.</td>
<td>n</td>
<td>40</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>4.78</td>
<td>4.53</td>
</tr>
<tr>
<td>Cultural org.*</td>
<td>n</td>
<td>104</td>
<td>265</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>12.43</td>
<td>14.48</td>
</tr>
<tr>
<td>Church groups*</td>
<td>n</td>
<td>125</td>
<td>207</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>14.81</td>
<td>11.28</td>
</tr>
<tr>
<td>Youth clubs</td>
<td>n</td>
<td>126</td>
<td>323</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>14.95</td>
<td>17.58</td>
</tr>
<tr>
<td>Other clubs*</td>
<td>n</td>
<td>140</td>
<td>301</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>17.05</td>
<td>16.82</td>
</tr>
</tbody>
</table>

* Differences are statistically significant for both gender and FAS with p<0.01
1 Difference statistically significant only by gender with p<0.01
2 Difference statistically significant only by FAS with p<0.01

Table 4 shows the odds ratios for the influence of club participation on health and related outcomes and how this varies according to type of club and across outcomes.

The probability of adolescents perceiving the own health as excellent is higher in those who go to sports clubs, those belonging to political organisation and those belonging to at least one association, no matter which one (O.R. = 1.18).

Similarly those who have a high rating of life satisfaction are more likely to report being involved in sports clubs (O.R. = 1.51) and cultural organisations (O.R. = 1.18) and are more likely to belong to at least one organisation.

Those who report at least one symptom at least once a week are less likely to go to a sports club (O.R. = 0.74) and less likely to be involved in more than one association (O.R. = 0.77). There is an increased probability of reporting symptoms for those involved in voluntary service, cultural and other clubs.
Overall the probability of adolescents smoking is lower for those participating in at least one association (O.R. = 0.8) and even lower if they participate in more than one association (O.R. = 0.64). But adolescents who are involved in a political organisation or who attend youth clubs are more likely to smoke (O.R.s = 1.74 and 1.66).

Sports, political and youth clubs increase the risk of having been drunk, while cultural and religious groups decrease it. In general, however, participating in clubs and associations seems to be protective from drunken behaviour: belonging to one club (O.R. = 0.82), belonging to more than one club (O.R. = 0.74).

Club participation in general decreases the likelihood of consuming soft drinks daily: membership of one club (O.R. = 0.79) and membership of more than one (O.R. = 0.67). However, attendance at sport clubs, political organisations and youth groups increases consumption.

Those involved in sports or cultural groups are more likely to eat fruit and vegetables daily but, in general, being involved in any club increases the likelihood of eating fruit and vegetables regularly (O.R. = 1.23) and even more for 2 clubs or more (O.R. = 1.59).

As might be expected, those who are involved in sports clubs are much more likely to report higher levels of physical activity (O.R. = 2.95); however, there is no significant impact on levels of physical activity for other types of club.

Adolescents are less likely to be sedentary (as characterised by watching television more than 2 hours a day) if they are involved in clubs (O.R. = 0.82 and 0.66 for being in one club and more than one club respectively).

Table 4 – Multilevel logistic model for each outcome variable considered (O.R. and 95% Confidence Interval; 15yo only).

<table>
<thead>
<tr>
<th>1st group: control variables (gender and FAS);</th>
<th>2nd group: 1st set of determinants (club participation: participation in each club type vs not participation in that club);</th>
<th>3rd group: 2nd set of determinants (number of clubs the person participates to).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent health</td>
<td>High life-satisfaction</td>
<td>Health complaints</td>
</tr>
<tr>
<td>O.R.</td>
<td>O.R.</td>
<td>O.R.</td>
</tr>
<tr>
<td>95% CI</td>
<td>95% CI</td>
<td>95% CI</td>
</tr>
<tr>
<td>Gir vs boy</td>
<td>0.49 (0.44-0.54)</td>
<td>0.67 (0.61-0.74)</td>
</tr>
<tr>
<td>Mid FAS vs low</td>
<td>1.14 (0.99-1.30)</td>
<td>1.79 (1.59-2.00)</td>
</tr>
<tr>
<td>High FAS vs low</td>
<td>1.43 (1.24-1.65)</td>
<td>2.61 (2.28-2.98)</td>
</tr>
<tr>
<td>Fruit and veg daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O.R.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95% CI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gir vs boy</td>
<td>2.01 (1.75-2.32)</td>
<td>1.51 (1.31-1.75)</td>
</tr>
<tr>
<td>Voluntary serv.</td>
<td>1.02 (0.87-1.21)</td>
<td>1.12 (0.94-1.32)</td>
</tr>
<tr>
<td>Political org.</td>
<td>1.36 (1.07-1.74)</td>
<td>0.78 (0.60-1.00)</td>
</tr>
<tr>
<td>Cultural org.</td>
<td>0.94 (0.81-1.09)</td>
<td>1.18 (1.01-1.39)</td>
</tr>
<tr>
<td>Religious groups</td>
<td>0.93 (0.80-1.09)</td>
<td>0.95 (0.80-1.11)</td>
</tr>
<tr>
<td>Youth clubs</td>
<td>0.87 (0.74-1.01)</td>
<td>0.97 (0.83-1.14)</td>
</tr>
<tr>
<td>Other clubs</td>
<td>1.01 (0.87-1.18)</td>
<td>0.92 (0.79-1.08)</td>
</tr>
<tr>
<td>1ass. Vs none</td>
<td>1.18 (1.00-1.38)</td>
<td>1.19 (1.03-1.39)</td>
</tr>
</tbody>
</table>
Discussion

In general, adolescents who are involved regularly in some sort of club report better health, are more likely to have healthier lifestyles and less likely to engage in risk taking behaviour. This paper adds value to the findings from previous research\textsuperscript{16 21} by exploring the relative importance of different types of clubs for health and how they vary by gender and socio-economic groups, and verifying its consistency across countries representing Northern, Southern and Eastern Europe and North America.

Of course, the cross-sectional nature of HBSC limits our ability to detect the casual direction of any of the relationships found. Whether or not young people get involved in certain types of clubs may be determined by their existing levels of health or characteristics. For example, young people who participate in sports clubs may already have higher levels of health than those not participating. However in this instance we would argue that being involved in this type of club provides more opportunities to maintain physical activity and indeed increase social skills and social ability which are both known to be health enhancing. It might also be argued that those who are regularly involved in political or activist groups are already dissatisfied with their lives – participation in this instance driven by the need to change either their immediate or wider environment. Qualitative research to understand young peoples motivations for participation would help us to further interpret the findings presented here. The selection hypothesis is an important source of bias in our results and should be taken into account when considering them.

Our interpretation of the findings concurs with Bourdieu’s\textsuperscript{13 19 20} notion of social capital, which highlights the tendency of dominant groups (here: high FAS) to value large group participation, increasing access to information and to supportive networks from a wider range of sources (also resources for health): in our study, adolescents who came from wealthier backgrounds were more likely to participate in a range of clubs and more often.

As might be expected, boys in general were more likely to participate in clubs, especially sports clubs, whereas girls were more likely to participate in those organisations (for example voluntary service) which foster the development of supportive networks for families and the community.

Overall, our data support the hypothesis that participation in clubs is important for the health of young people, irrespective of the types of club that they are involved in. However there are some differences in the types of organisations that are important. There is a consistent direction of association between club participation and perceived health and well being, fruit and vegetable consumption, physical activity and watching TV; but for other outcomes, some clubs seem to be more important than others and indeed some even have a negative effect on health or health related behaviour. For example, being involved in youth clubs seems to increase the likelihood of adolescent smoking and drinking behaviour. Nonetheless, even for these outcomes, there is a significant protective effect of belonging to one or more clubs which seems to outweigh the observed negative effects. This may of course be due to sample size – the overall effect is made up of several associations whose effect, when looked at alone, is not statistically significant.

Two main patterns emerge from the findings: firstly, health and healthy behaviours tend almost in every case to be enhanced by any kind of club participation; and second, for risky behaviours, some particular clubs may produce less favourable outcomes (e.g. the effect of political and youth groups on smoking and drunkenness). One could assume that, in these types of clubs, peer pressure has an
influence, making behaviours such as smoking and drinking more acceptable and cool, but no effect on healthy behaviours such as eating fruit and vegetables.

These initial findings provide some evidence that being involved in enlarged networks of different types is beneficial for health and that the notion of bridging social capital maybe a useful tool to support health development policies and practice. Further qualitative research can help us understand the mechanisms through which different types of club foster health development and therefore are also helpful to policy makers, about which types of social capital are appropriate to invest in, within and between different population groups, age and gender and in different country contexts.

Our findings support the notion that encouraging participation in a range of associations is a useful and beneficial policy goal especially for young people, increasing their facility to access and become part of wide ranging networks. This encouragement needs to be fostered by listening to the voices of young people, to ensure that it is not seen as an oppressive request, as seen historically in totalitarian societies. Participation should therefore not be seen as a dogmatic ‘must do’ regime, instead, by highlighting the range of benefits that can be accrued from participation it may be seen as a resource for young people in achieving their future health potential. Club participation however is not without its potential problems – peer pressure for example can lead to negative consequences for some adolescents (higher uptakes of smoking and drinking) and some cases can lead to those strong ties associated with teen gangs. Nonetheless, given our findings show that club participation has an effect on health even after controlling for social background (as measured by FAS), it is suggested that club participation helps to build connections across the social spectrum and therefore has the potential to contribute to a reduction in health inequalities.

It is clear from our data that club participation can be supportive of health and healthy lifestyles. Better policy and programme formulation, which seeks to understand the types of clubs that are acceptable to young people, and that finds ways of improving accessibility to them, will maximise the opportunities for the benefits of participation to be realised. Teachers and parents have a role to play in understanding the motivations for getting involved – proper involvement of young people which supports their role in creating and managing clubs provides the best possible chance for enhancing larger social networks which are health promoting irrespective of a young person’s social background.
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2. Italian Ministry of Health provided funding with program “ex 60%”.
3. Carine Vereecken is post-doctoral researcher funded by the FWO-Flanders
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