

Playground games: their social context in elementary/junior school (Grant number: 199800204)

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Summary

This report summarises the background to the project. The basic premise was that a focused study of the social context of playground games, and how they originate and develop, would contribute in a distinctive way to understanding of wider aspects of peer relations, and contribute to school policies on behaviour and breaktime in schools. Research questions concerned the development of games and social relations over the school year, sex and ethnic differences, differences between children in involvement in playground games and differences between the US and England. Children that entered junior school in England during the year they become 8 years, and in Minneapolis as children entered first grade, were followed for one year. Sample sizes were 129 children in four schools in the UK and 90 children in three schools in the US. A multi-method approach to data collection was developed, with a main use of direct observation of playground behaviour. Research findings are summarised and include the role of playground game facility in school adjustment, differences between boys and girls and ethnic groups in games and social relations, and changes over the year, the development of a characterisation of game involvement, and cross national differences in games and social relations. The importance of the findings in terms of theory, empirical findings and school and social policy are described, and also the role of the project in the grantees' longer term research program. Outputs from the project are listed including Journal papers and books.

Focus of the Research

Here we briefly describe the background to the project (please note that in the interests of brevity the theoretical background and all references have been omitted).

Background

The research had its origins in the grant holders' previous work on breaktime behaviour and management. The basic premise was that a focused study of the social context of playground games, and how they originate and develop, would contribute in a new and distinctive way to understanding of wider aspects of peer relations, and in particular friendships and social networks. In a more applied way, the aim was for the research to contribute to better understanding of processes of adjustment to school, difficulties faced by some children in peer relations and breaktime experience, and to contribute to school policies on behaviour and breaktime in schools.

(Note: 'recess' is the US term, and 'breaktime' the UK term, used to denote all recreational breaks in elementary/primary schools, including lunchtime. 'Recess' and 'breaktime' are used interchangeably.)

This study was conceived in the context of important social and cultural changes. There are signs in the US and England that children of primary school age (5 - 11 years) have fewer opportunities out of school for interacting freely with peers and thus developing friendships and social skills. This places more emphasis on interaction at recess in school, which is the main opportunity for children to interact and develop friendships. A sizeable part of recess at primary level is taken up with play and games. However, there are also signs in England and the U.S. that time allocated for recess and lunchtime is being reduced. One reason for this is that students' behaviour at recess has been seen as a problem, with worries about unnecessarily aggressive and aimless behaviour, and bullying, and negative effects of peer rejection. It was our view that behaviour at breaktime can be viewed in a more positive way. In part this stems from the often expressed value of peer relations and friendships and play in child development, but also from the social and educational value of playground interactions in particular. We believe that there is much that can be learned about children's social lives from study of their

playground behaviour.

Playground games and social relations

We argue that playground games play a primary role in peer interaction and the development of friendships in elementary/primary school, and that involvement in breaktime activities and games is important in pupils' social development and adjustment to school. Three main areas of research and theory on peer relations are relevant to this study : 1. social competence and social status, 2. friendships and 3. social networks. The study is also relevant to theory on the role of play and games in development, and sex differences. The implications of these areas for the present study are reviewed in the proposal, and are taken up in our publications arising out of the project. We argue that little is known about the social processes affecting how games come into the school playground, and how they develop and change over the school year; and little is known about links between developments in playground games and friendships and social networks. Moreover, little is known about individual differences between children in involvement in breaktime life and games, or the extent to which processes vary between countries. The aim of this study was to address these issues.

Research Questions

There were three main areas of investigation

1. Development of games, friendships and social networks after entry.

a. What social processes explain how games arrive on the playground?

We are studying the nature and relative importance of processes affecting the arrival of games on the playground. This is an important question given worries about a decline in the quality of outside play.

b. How do games develop and change over the year, and what factors explain changes?

Our interest is in changes in playground games and behaviour in the short term, after entry to school. In particular, how do games change in terms of type, duration and structure, and what social processes explain why some games become dominant and some drop out?

c. What is the role of games in the first contacts between children and in the development of later friendships and networks?

The suggestion from our earlier research was that games served different social functions at different stages in the school year, but there is much that is still conjectural, for example, concerning the connections between friendship status and games.

d. What is the role of playground games in the separation of boys' and girls' games, and also mixed sex activities?

Differences between boys and girls in play and breaktime activities and social networks are well documented but there is dispute about the extent of same-sex play. Research indicates that cleavage between boys' and girls' play is not inevitable.

2. Individual differences in involvement in playground games

Interest in individual differences, in playground behaviour, has almost entirely focussed on the troubled neglected or aggressive child. One advance of this study is to seek a fuller description of individual differences, and factors related to these differences. Our earlier research suggested the key role of a few pupils in suggesting, maintaining and terminating games, but the validity of the concept of 'key players' needs further study. It was proposed to study associations between the extent of playground involvement and a range of variables drawn from a review of the relevant literature. Areas included playground behaviour and friendships, adjustment to school, academic ability and self concept

measures. What is the role of playground games and playground behaviour in school adjustment?

3. Differences between the US and England in playground games and social relations.

The applicants' experiences in schools suggest differences between the US and UK in the position of recess in school and social life, though there is very little knowledge concerning such differences. With only a few schools there will be limits on the generalisability of findings, but some comparisons between the two countries are possible, and should help understanding of the role of recess in social adjustment to school in both countries.

Research approach and method

A longitudinal design over one school year was used. Children that entered junior school in England during the year they become 8 years, and in Minneapolis as children entered first grade, were followed for one year after entry. There have been some changes to the sample specifications: in the UK four rather than three schools were involved in the research, and the sample size has therefore been increased to 129 children; in the US three first grade classrooms in two schools were studied, making a total of approximately 90 children. As described in the proposal, in order to address the research questions a multi-method approach to data collection was developed, but with a main use of direct observation of playground behaviour, and data would be used both quantitatively and qualitatively.

Data collection

Playground observations

The main form of observation, common across countries, was scan sampling. Pilot work indicated that the interval between scans for each child should be altered to increase the 'lead up' time to a maximum of 20 seconds, to increase the detail and reliability of coding. Playground behaviour was categorised on four main areas: type of games and other activities, type of behaviour, level of social interaction, and social networks. In the UK scan data were collected in the Autumn and Summer terms, and in the US continuously. The aim of this part of observation study was to provide basic frequencies for each child on selected playground behaviours, which could be used to provide the basis of comparisons between boys and girls, schools, research sites, and time in the school year etc. One main measure from this method was the extent of game involvement.

In order to maximise the use of both quantitative and qualitative techniques, we decided to vary procedures for the other two observation techniques between the US and the UK. In essence, in the UK there is a heavier emphasis on qualitative data and analysis. In the case of event sampling of games, in the US these data have been collected in a quantitative way, using pre-selected observation categories, while in the UK these data are complemented by the collection of detailed information on games and interactions within them by the use of video and audio tapes. Together these data will allow analysis of changes over time in the nature, duration and structure of playground games, as well as connections between game and friendship networks. In the case of the continuous focal child observations, in the UK these are used in service of the case studies, and combined with other data for a more qualitative and interpretative analysis, while in the US these have been used as the basis for quantitative analysis.

Other forms of data collection are common to the two countries. They can be grouped under the following main headings:

Pupil self ratings and nominations

Breaktime and school liking questionnaire - Positive attitudes to school (12 items). Positive attitudes to

breaktime (8 items).

Marsh Self Description Questionnaire (SDQ1) - Scales: Physical, Appearance, Peer relations, Reading, Maths, General school self, General self. (Each scale is the sum of 8 related Lickert scale items).

Peer nominations - Each child was asked to nominate all those children in their class on the following dimensions: who they liked to play with most, who they liked to play with least, who were their friends, who were their best friends, who 'disrupts, fights and says mean things', who 'worries a lot', who are leaders, who 'do not get involved in activities at play time' (either because they don't want to or because others don't like to play with them), who 'suggest games to play at playtime', and, who are 'good at sports and games'. In addition to standardised scores for each of the question dimensions, other nomination scores were derived for: popularity (Like Most-Like Least), rejection (Like Least-Like Most), Key Player status (is a Leader + Suggests games), social impact/ neglect (Like Least + Like Most), as well as reciprocal friendship and best friend nomination scores (i.e. where both children nominate each other as friends etc.).

Teacher ratings

Pupil Behaviour Ratings (PBR) - Scales: Hyperactive/distractible (concentration) (10 items), Anxious/fearful (3 items), Aggressive (11 items), Asocial (7 items), Prosocial (7 items), Excluded (7 items), plus individual PBR items: Adjustment to school, Physically skilled/athletic.

Dodge & Coie - Scales: Aggressive (8 items), Dominant 6 items), Socially anxious (8 items), Academic (4 items), Prosocial (5 items), Attractive (2 items).

Researcher ratings of children on the playground

In the UK researchers rated children on the following dimensions to provide comparable dimensions to the main dependent variables in the study: - Involved in games, Involved in friendship group, Rejected, Neglected, Aggressive, Independent.

In the US children were rated by researchers using the PBR and Dodge & Coie items to provide a comparison (and reliability check) to the teacher completed items.

Child interviews

Transcripts are currently being analysed to draw out main themes and particular experiences with regard to how games arrive in the playground, factors influencing changes in games over the year, and the role of games in first contacts and later friendships.

Case studies of individual pupils.

The aim is to build up a more continuous and particular account of individual pupils. Data on each child are being examined in terms of common dimensions from the observation, interview data, self concept, and other observation data, also studied in the quantitative study.

Summary of Main Findings

This section summarises main results from the study. For convenience it is organised around papers written by the grant holders. Again, in the interests of brevity, we have largely excluded the theoretical and empirical background to each area. Publications arising out of the project are attached, and can be followed up by readers if required.

The role of playground games in social relations

Playground games are particularly important at the start of the school year, when peers are not familiar with each other. Shared knowledge of the game can be used by relatively unfamiliar children as the basis for interactions. We suggest that games can 'scaffold' or support social relationships. Entry to, and suggesting games, can act as opening gambits in emerging social peer relationships. These results are described in Pellegrini and Blatchford (2002).

In the US, game facility at the beginning of the school year predicted social competence with peers at the end of the year. These findings were more consistent for boys than girls, which is in line with the view that the playground affords boys opportunities to express skills important in male peer groups. Game leadership also predicted children's school adjustment by the end of the year, though this was again more true for boys than girls. These results are written up in Pellegrini, Kato, Blatchford and Baines (in press)

Playground games: changes over the year and sex and ethnic differences

In the UK, peer social interaction dominated recess and children were rarely observed to play in parallel or be solitary. Play and games form a substantial proportion of playground activities and boys were found to engage in more games and less play while girls played fewer games over the course of the year. Sex differences were found in the types of activities played with boys playing more ball games and fantasy play and girls were more involved in conversation, sedentary play, jump skipping and verbal games. Conversation and ball games increased over the course of the year while sedentary play and chasing, catching and seeking games reduced. Mixed sex play was not supported by a particular game type though the main activities were conversation, ball games, racing and chasing games.

Sex differences were observed in terms of behaviour with boys showing more rough and tumble play, aggression and being disciplined and girls showing more positive affection. Aggression, though rare, was most common during vigorous play and conversation, but not ball games.

While boys played in larger game networks than girls the size of their active networks (who they directly interact with) were the same. Game networks were mostly of children of the same age though this increased over the course of the year and girls were observed to interact with children from other years more frequently than boys. Females were more likely to be in ethnically homogenous social networks and boys in ethnically heterogeneous social networks. Mixed ethnic social networks increased over the course of the year. The distinction made in this study between active and game networks helps clarify contrary predictions concerning changes in time. It is the 'active' network size which appears to be stable (i.e., not increase), while it is the game network which increases in size over time, perhaps with familiarity and more interest in games with rules. These results are described in Blatchford, Baines & Pellegrini (in press).

There was a clear tendency for children to interact on the playground with children of the same sex and for them to be involved in same sex games. In over 80% of scans boys were in mostly male groups and girls in mostly female groups. These results show that sex segregation of playground game groups is marked, as it is in the USA data (Pellegrini et al., in press). Contrary to Blatchford's (1998) suggestion, there was no sign at all that same sex groups increased over time; the degree of sex segregation remained constant over the year. However, mixed sex groups did occur on playgrounds; boys interacted with females in either mixed or predominately female groups in 13% of scans and girls with boys in 17% of scans. Cleavage between boys' and girls' play and activity is therefore common but not inevitable. There did not appear to be particular games which supported more mixed sex play; rather there were a number of games that brought boys and girls together, the most likely being ball games, conversation, chasing catching and seeking games

and fantasy play.

Main findings in the US concerning sex differences and changes over the year were similar to the UK. Again, games accounted for a significant portion of children's, but especially boys', activities. The variety and complexity of boys' games increased across the school year. In contrast to the UK data, children's playgroups were ethnically segregated at the start of the year and did not change significantly. However, boys social networks became more ethnically heterogeneous over time whereas girls' networks became more homogenous.

Individual differences in involvement in playground games

We argue that there is one limitation in the existing literature on individual differences in peer relations. It has tended to focus on several main dimensions on which children vary, and one kind of child in particular - the troubled child. This can be seen in the many studies of the aggressive, rejected, bullied, victimised or withdrawn. These are clearly important aspects of social functioning, but it is our view that the resulting picture provides an incomplete portrayal of individual differences in peer relations. Specifically, we have been interested in the degree to which children were involved in playground games and other activities, e.g., in terms of instigating, maintaining and terminating games. This is similar to but different from allied notions of dominance and centrality. Game involvement is a main expression of peer relations in children of primary school age, and study of differences revealed on school playgrounds is likely to be indicative of differences in social functioning that extend beyond particular playground activities and the specific playground setting. In the study we developed a characterisation of individual differences in game involvement and then analysed correlates and predictors of this dimension. The following five types of player were identified using the researcher ratings (which correlated with but were more sensitive than observation and nomination measures of game involvement): Key, Central, Team, Hoverer and Solitary. Game involvement was stable over the school year. Over time key players retained their central place in games and social relations. Correlates of game involvement were sociability on the playground, popularity, friendship, playground independence, leadership, school adjustment and academic performance. Against expectation involvement in games was not related to pro-sociability or aggression. Girls were as likely as boys to be key players by the end of the year. These results are described in Blatchford, Baines and Pellegrini (paper submitted).

Differences between the US and England

Cross national comparisons indicate that children in the US play games more than in the UK but that in the UK children were more socially interactive. In the US, games decreased over the year for girls but increased for boys and boys were more socially interactive at time 1 than girls. US children played more chasing games than UK children and in the US boys more than girls. Similar to the UK findings, chasing games decreased over the year in the US. In contrast to the UK, girls played fewer ball games at the end of the year than at the start whereas there was an increase in the UK. Boys on the other hand played more ball games at the end of the year in both countries. Children showed more vigorous play in the US than the UK and boys more so than girls. Overall in both countries there was little aggression, disputing, teasing and taunting, distress and crying and being disciplined, but boys were more aggressive than girls in the US and UK. These results are written up in Pellegrini, Kato, Blatchford and Baines (in press).

Social networks

We are currently finalising analysis of social networks derived from our observational data. Girls' social networks were greater in number but smaller than those of boys. However, boys' social networks were only larger than those of girls when they played ball games and not when other types of play and games were considered. Social networks, particularly those of boys, showed fairly high stability over

the year. Most social networks had a core membership who were best friends about half of the time and who were more often involved in the organisation of games (were usually either key, central or team players). Children's friendship relations showed greater instability than social networks. Girls friendships showed greater stability than those of boys. A significant overlap was found between best friendship, friendship and social networks in that the majority of best friends and friends were in the same social network. However, findings indicate that the majority of members in female social networks are friends while less than half of members of male social networks are friends. Interestingly, girls were more likely than boys to have friends outside game networks. A large proportion of social networks consisted of members who differed in terms of game involvement, indicating that playground networks were structured in terms of complementary group roles.

Importance of findings

The project has made several contributions. These can only be summarised here. There have been theoretical advances. The role of games in social and cognitive development figures in some theories (e.g., Piaget) but is relatively undeveloped. This project has enabled a more thorough study of the peer social contexts for games and play. We believe that study of playground games and play has implications for understanding of social relations, and conversely study of peer social relations has implications for understanding of play. Games and peer relations are linked because both are important developmental tasks related to the development of social competence. These ideas are developed more fully in Pellegrini and Blatchford (2000 and 2002). Currently we are developing a conceptual framework for examining our data on breaktime behaviours in terms of three components: the activity (often the game), the individual (or the 'player'), and the social group or network. These are being developed on the basis of numerical results summarised here, and also the case study and video and audio tape data, in preparation for a book.

Another contribution is to understanding of sex differences in peer relations. This is possible because of the rigorous and detailed account of sex differences in everyday playground behaviour. We believe this has allowed us to extend some aspects covered in the seminal review by Maccoby (1998) of sex differences in peer relations, e.g., in terms of factors leading to social influence in friendship groups among boys and girls.

Findings also, though more speculatively, contribute to school policy regarding ethnic group relations. In some cases playground activities can reinforce ethnic differences, but, especially in UK playgrounds, they also appear to help bridge ethnic differences. Contact theory is usually assumed to be inadequate as a way of bringing about ethnic integration, and social psychologists long ago showed that some form of superordinate goal is needed to bring about integration and cooperation. We argue that some playground activities may do more than externally and adult imposed schemes to facilitate real integration by creating 'authentic' joint activities involving different ethnic groups. However, this suggestion requires further examination. Further research should also examine the ethnic mix of game and playground groups relative to age; once the game structures that may support interactions between pupils from different ethnic groups die out social networks may revert to ethnic segregation.

Our research is most obviously relevant to school policies regarding recess. As we have said, there are signs that time allocated for recess and lunchtime is being reduced. A concern with difficulties individual children experience during recess is clearly important, but the present study indicates that this worry might be turned on its head in favour of a view that children learn much about social relationships and skills during the course of everyday encounters with peers during games and that cutbacks in recess are likely in the long term to exacerbate the problems they are implemented to stop. There are also social policy implications in terms of concerns about children's fitness and obesity levels, as well as the wider debate

about the decline of outside play opportunities for young people. The grantees have contributed to this debate by their writings and contributions to press, radio and TV coverage.

The results also indicate the value of looking closely at game and playground activities as a guide and reflection of adjustment to school. To an interesting degree this information is not normally available to teachers who can spend a limited time in playground supervision. Such information can be of use in the case of children having difficulties at school; but it may be of use in a more general way as a guide to children's adjustment to school.

We believe that the study has contributed methodologically. A strength of the study, recognised in referees' comments on papers submitted to Journals, is its multi method approach and strong observational component.

How research is related to grantees' previous and future research

The Spencer funded research has been significant in the development of a programme of the research, led by the grantees, on peer social relations in everyday school contexts. The research informed a collaboration by the grantees on a textbook on social developmental factors in pupils' school experiences The Child at School: Interactions with Peers and Teachers. (Edward Arnold). This combines educational, social and developmental psychological perspectives on children's interactions at school.

The research has been successful from our point of view in the sense that we have been able to successfully collect and analyse data and prepare papers submitted to high quality peer refereed Journals, and contribute to policy and debate on children's free time and social relations in school. But the study has also been successful in a different way: it has been productive in bringing to light new insights and suggestions for further enquiry and theoretical development, on which we are currently working. Examples here are the role of playground observational data for the study of peer social networks. Another interest that has arisen since the research has been in school differences in breaktime games and social relations. Again this is an unexplored area to date but one with implications for school policy (e.g., why is that some school playgrounds seem to reveal more constructive playground activities, while others have more aggressive behaviours?), and one which can contribute to better understanding of contextual influences on children's behaviour. Another development is more theoretical and concerns the role of peer group relations for theories concerning school learning. It is clear that informal peer relations often around games are inherently motivating and often reveal considerable skills and their close study may contribute to understanding of school contexts within which peer learning takes place. Specifically, the Spencer funded project has informed Blatchford's current large scale study on 'Improving the effectiveness of pupil groups in classrooms' (funded by UK ESRC Teaching and Learning Research Programme, Phase 2 - with Professors Maurice Galton and Peter Kutnick)

Changes in plans

We have detailed above changes to the number of schools and children. These changes have strengthened the study in some ways e.g., in terms of the extra school in the UK, and the extensive data collected on playground social networks. Another change was the no cost extension to the project, granted in order to accommodate Dr Pellegrini's move from Georgia to Minneapolis. The grantees would like to thank the Spencer Foundation for their support in this matter.

Dissemination

The grant holders and the Research Officer in the UK – Dr Ed Baines – have been active in presenting findings to main professional conferences and writing up papers for education and psychology Journals. Papers submitted or in preparation are listed below, as well as conferences where results and the research have been addressed. Findings were presented at a symposium organised by Blatchford and Pellegrini at the biennial conference of the Society for Research on Child Development (SRCD). Findings have also been reported at British Psychological Society (BPS) Developmental section conferences and as part of keynote speeches at professional conferences. It is anticipated that we will contribute to further conferences in the future as more findings are explored and interpreted. There is an interest internationally in breaktime/recess research, to which the authors have been main contributors

Publications within which results from the study are presented:

Pellegrini, A. & Blatchford, P. (2000) The Child at School: Interactions with Peers and Teachers London: Edward Arnold. 241pp

Pellegrini, A. & Blatchford, P. (2002) The developmental and educational significance of breaktime in school. The Psychologist, 15,2, 59-62

Pellegrini, A., & Blatchford, P. (2002) The developmental and educational significance of recess in schools. Early Report, University of Minnesota, Vol. 29, No1, pp 1-7

Pellegrini, A., Kato, K., Blatchford, P., & Baines, E. (in press) A short-term longitudinal study of children's playground games across the first year of school: implications for social competence and adjustment to school. American Educational Research Journal

Blatchford, P., Baines, E. & Pellegrini, A. (submitted – currently under review after revisions) Peer relations on the playground: differences between, and predictors of, playground involvement.

Blatchford, P., Baines, E. & Pellegrini, A. (in press) The social context of school playground games: sex and ethnic differences and changes over time after entry to junior school. British Journal of Developmental Psychology

Pellegrini, A., Blatchford, P. & Kato, K. (submitted) A cross-national, longitudinal study of children's playground games in primary school: implications for social competence, adjustment to school, and school policy.

Baines, E. & Blatchford, P. (in preparation) The social context of peer relations: children's social networks on the school playground

Blatchford, P. & Baines, P. (in preparation) Differences between schools in playground games and activities

Results also presented at :

Blatchford, P. (1998) School recess on playgrounds in England: do they have a social function? Paper to XVth Biennial Meeting of the International Society for the Study of Behavioural Development, Berne, Switzerland, July.

Pellegrini, A. (2000) The good and bad of play during school breaktime. Keynote address to the Association of Child Psychology and Psychiatry's Conference on Play, Birmingham, U K, June.

Blatchford, P., Baines, E., and Pellegrini, A. (2000) Playground involvement and social relations: a longitudinal study of individual differences and their correlates. Paper to British Psychological Society Developmental Section Annual Conference, University of Bristol (in book of Abstracts)

Blatchford, P., and Pellegrini, A (Convenors) Symposium on Playground games and social relations: their social context in elementary/primary school, to Society for Research in Child Development (SRCD) Biennial Meeting, Minneapolis, MN, USA, April

Pellegrini, A. (2001) Children's games as a scaffold for adjustment to primary school. Paper to Society for Research in Child Development (SRCD) Biennial Meeting, Minneapolis, MN, USA, April

Blatchford, P., and Baines, E. (2001) Playground game involvement: a typology of differences between children and a study of predictors. Paper to Society for Research in Child Development (SRCD) Biennial Meeting, Minneapolis, MN, USA, April.

Baines, E., and Blatchford, P. (2001) Children's social networks on the playground: composition, friendship relations and game involvement. Paper to Society for Research in Child Development (SRCD) Biennial Meeting, Minneapolis, MN, USA, April.

Blatchford, P. (2001) The social value of school break-times: recent research evidence. Key Note Address to international conference on 'Dimensions of Play', University of Sheffield, July

Baines, E. and Blatchford, P. (2001) The social context of peer relations: children's social networks on the school playground. Paper to British Psychological Society Developmental and Educational Section Joint Centenary Conference, University College, Worcester, September