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Title: School Breaktimes/ Recess as a Context for Understanding Children's Development

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Abstract:
'Breaktime' or 'recess' is normally a break within the school day where children get to play and socialize with peers. Although there is little international understanding of the nature and position of recess in schools across the globe, the limited research available suggests that they are being eroded. However, there is good evidence that these times are enjoyed by the vast majority of children and they provide an important context for children to develop relationships and friendships with peers. These times also offer significant opportunities for the development of social and cognitive skills that are important for current and future academic and social functioning. Breaktimes/recess can be conceived as important 'sites of scientific interest' because they offer a window in to children's social lives and their social development and how these might relate to learning in, and adjustment to, school.

Keywords: Breaktime; recess; playtime; playgrounds; peer relations; friendship, bullying

School Breaktimes/ Recess as a Context for Understanding Children's Development
Many schools have breaks in the school day where children have time away from formal learning activities. While these times may seem inconsequential, they can be important sites for children's social development and learning and adjustment to school. 'Breaktime' (or 'recess' as it is referred to in the US[1]) is a break within the school day which typically involves access to outdoor space, when weather and space permit, and is often unstructured time for recreation, play and socialization with peers in a setting where adults often supervise at a distance. Breaktimes can be differentiated from other short breaks which allow students to have a comfort break, a snack or meal or to move to another location for the next lesson.

Considering the prevalence of breaktimes across the school systems of the world, it is surprising how little we know about them. In the past 20 years there has been an increasing focus on evaluating education systems, e.g., by international comparison studies as part of OECD work, but there is limited knowledge about even basic features of recess such as their duration and activities that take place, and how breaktimes relate to children's social and academic development.

The scarcity of information relating to breaktimes tells its own story in terms of the extent to which they are seen as unimportant or even viewed negatively by governments, policy makers, researchers and educators. This is perhaps no surprise as breaktimes are not obviously important – on the face of it, just a time when pupils are given some free time during the busy school day. But there are other reasons behind the negative view. Breaktimes can be challenging in terms of bullying (Smith, 2014), supervision, management and safety, and policy makers often suggest cutting them back or banning particular activities.

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[1] Throughout this chapter the terms breaktimes, playtimes and recess are used interchangeably.

Another key reason for the negative view is because recess is seen to get in the way of time spent on school academic matters. In the USA, recess was banned in Atlanta public schools on these grounds: *"We are intent on improving academic performance. You don't do that by having kids hanging on monkey bars."* *(Superintendent of public schools – see Pellegrini, 2005, p3).* As reported in the Observer in 2007, a newly built Academy school in England was designed with no playground and no morning recess. A school official was quoted as saying *"We have taken away an uncontrollable space to prevent bullying and truancy."*

In contrast to this negative view there are two main reasons why breaktimes are important: firstly, breaktimes have an often overlooked positive role to play in child development and school functioning. Social activities and interactions during breaktimes offer opportunities for children to develop valuable social skills and encounter and resolve real world social challenges of the sort not usually experienced when adults mediate the interaction. Secondly, breaktimes are an exceptionally revealing site for research. They can provide a window into many aspects of child development and we can learn much about children from studying their interactions and behaviour when engaged in freely chosen activities during breaks (see Blatchford, Pellegrini & Baines, 2016; Pellegrini, 2005).

One well developed view of child development conceives of children being situated within ecologically meaningful social, cultural and historical contexts, and seeks to interpret learning and development relative to these contexts. From this point of view, the school is a context and within it are a range of nested contexts, including classes, mealtime contexts and breaktimes. Recess has different physical and organizational constraints, social rules and roles, and affords unique opportunities for socializing with peers. Breaktime is one of the main 'open' settings with greater degrees of freedom and more opportunities to interact with peers.

The opportunities for play and social interaction at breaktime stand in contrast to regular reports of a decline in play and direct social interaction outside of school. This emphasizes the importance of those few remaining times, such as breaktimes, which can provide rich opportunities for children to engage in sustained play and interaction with friends and peers.

This chapter draws mainly on psychological research on children and young people within the context of school breaktimes. There are three main sections: international evidence on breaktimes, including changes in duration over time; what goes on at breaktimes in terms of activities and social interactions; and breaktimes as a context for social development and learning. In line with the research literature most emphasis is on primary and, to a lesser degree, early secondary education.

<A> 1. The nature of school breaktimes: International evidence

Information about the nature and duration of recess in different parts of the world is limited and there are to date no dedicated cross-national studies. International data is largely anecdotally reported by the OECD and UNESCO, and there is an informal survey conducted by Beresin (2016). Different countries seem to vary in their approach to breaks with some countries providing regular short breaks for every hour or so of instruction time. Countries such as Finland, Turkey, Japan and Republic of Korea reportedly provide 10 to 15 minute breaks every hour or so and have between 6 and 8 breaks in a school day. Other countries, such as Sweden, England and Wales, Switzerland, Australia and the Netherlands, offer longer but less frequent periods with some offering 2 fairly short breaks of 15 minutes and a longer break around lunchtime of between 30 and 60 minutes or just two breaks, one short and the other longer. There are some countries that reportedly have no break at all and this may be in part due to the timing of the school day, or because particular activities, such as daily group exercise or a meal time, are themselves seen as a break (as seems to be the case in mainland China, Bulgaria, Slovenia, and parts of Denmark). These figures are not definitive and inconsistencies stem from the range of sources and informality in approach to data collection.

The most systematic information available on breaktimes in one country comes from an extensive UK programme of research funded by the Nuffield Foundation, which included a national survey of schools in England and Wales. Surveys took place in 1995, 2006 (Blatchford & Baines, 2006) and 2017 (Baines & Blatchford, in preparation) and provide a unique 25-year insight into the nature and length of recess, supervisory arrangements, and school staff and pupils' views on them. Schools in England and Wales normally provide breaktimes which make up between 18% and 24% of the formal school day. Almost all schools have a 15 minute break in the morning and a lunch break varying from an hour or more (to include time to eat lunch), to just 30 minutes in some cases. Breaks vary by age with the younger (up to 7 years)

experiencing more total break time on average (91 mins) than older primary aged children (77 mins) or those in secondary school (69 mins) (see Blatchford & Baines, 2006).

Unfortunately, other studies rarely examine recess across the full school age range or in relation to the length of the school day. A USA survey during 2006-7 found grade differences in recess provision (see Ramstetter, Murray & Garner, 2010). Although 97% of children in first grade had a recess period, only 74% of other grades in schools had recess. First graders experienced on average 28 minutes of recess per day and sixth graders 24 minutes.

<B> **Changing durations of breaktime over time**
The Nuffield surveys in the UK show that over the period 1995 to 2006 schools shortened the total amount of break time available for children by approximately 15 minutes per week for the youngest children and up to 35 minutes for older children and adolescents. Between 2006 to 2017, breaktimes were shortened again by a further 30 minutes per week for adolescents and for the youngest pupils in school (Baines & Blatchford, in preparation). The main reasons given by school leaders for the reductions included pressure to maximise curriculum coverage and educational attainment, and concerns about poor behavior and bullying (see Blatchford & Baines 2006).

In the USA many states do not require a statutory recess and many school systems have abolished recess, sometimes in favor of additional Physical Education. The US survey indicated that almost one fifth of districts had reduced recess by approximately 50 minutes per week (see Ramstetter et al., 2010).

<B> **Views on breaktimes from staff and students**
The prevalence and duration of breaktimes needs to be seen alongside the views of policy makers, school staff and parents, and the purposes and value they place on these times. In the context of increased concerns about the lack of physical activity amongst young people, some argue that recess provides a daily opportunity for children to get exercise that can address these concerns. Studies support this view, indicating that recess can contribute 30%-40% of the recommended amount of daily physical activity. However, one unfortunate consequence of this view is that educators feel recess can be replaced with physical education (Pellegrini, 2005). This is unfortunate because the view that recess is simply a time for physical activity misses the important social function described below.

When it comes to pupils' views, a survey of over 1300 children and adolescents aged 10, 14 and 16 conducted as part of the UK Nuffield research (Blatchford & Baines, 2006), shows that pupils overwhelmingly enjoyed breaks, particularly the longer midday recess period. Contrary to developments in schools over recent years, pupils were also clear that midday breaks should not be shortened.

<A> **2. What goes on at breaktimes? Activities and interactions**
Descriptions of the activities that children engage in during recess show the levels of intensity and vigor in the play of primary school children. Typical activities involve sociable contact between children, and rule games such as football, a variety of chasing, catching and seeking games, as well as imaginative sociodramatic and fantasy play and rough-and-tumble play (Baines & Blatchford, 2011; Blatchford, 1998). Children are often observed to engage in simple forms of object play in the early years, while in middle childhood there are increasing amounts of imaginative, vigorous and physical play, more object play, and activities often described as games-with-rules (Smith, 2010). Play activities become increasingly a forum for social engagement.

In a year-long longitudinal study in the UK and USA, funded by the Spencer Foundation, a systematic observation study in the UK of 7-8 year old children involving over 7900 observations found three main types of activity: first, conversation; second, play (which included imaginative, vigorous, and sedentary play); third, games with rules (such as chasing and seeking, racing, ball games, jump rope/skipping and verbal games). Conversation accounted for a fifth of activities and play and games each represented about a third of activities. Three years later, in a longitudinal follow up at age 11, it was found that play had reduced in frequency to 14% of all observations and conversation increased to 39% of observations. Although game play remained at a similar level, the types of games had changed with an increase in more formally organized ball games, a decrease in racing and jump rope, while the frequency of chasing and seeking games and verbal-hand clapping games remained constant (see Baines & Blatchford, 2011). The evidence suggests, as predicted, that children engage in increasingly complex rule bound games (Pellegrini et al., 2004).

Given the common negative view of recess behaviors, it is interesting that anti-social behaviors, such as arguing, teasing/taunting and aggression were all infrequent, accounting for no more than 1-2% of observations. These results suggest that the common view of breaktime activities as largely negative and conflictual would be wrong.

The nature of playful activities has also been found to vary by the gender of the children involved. Girls and boys typically form homogenous gender groups during middle childhood. There has been much research on the play styles of boys and girls in these groups, and it has been suggested that these may play an important role in understanding gender differences that exist later in development (Maccoby, 1998).

It is also important to take into account the recess behaviors of older children and adolescents. Such studies as exist show that breaktime activity becomes increasingly dominated by socializing (Blatchford, 1998). However, one should not assume that recess is any less important to teenagers. Students' social lives become more relevant in new and deeper ways and are central in their developing sense of who they are. But school staff are less likely to perceive the social value of recess for adolescents and therefore it is not surprising that secondary schools were reducing unstructured social time at recess (Blatchford & Baines, 2006).

<A> 3. Breaktimes as a context for the development of peer relationships, social development and learning

Psychologists have studied breaktime behavior and peer relations from a relatively narrow, negative point of view, in terms of, for example rejection, bullying and victimization. In this section we seek a more rounded description in terms of peer acceptance and social status, friendships, groups and networks, bullying, school adjustment, and social skills and school learning.

<B> Breaktime activities, peer acceptance and social status

Breaktimes are times when children can find out about each other, where status, reputation and social structure are formed through everyday conversation and activities. There is much research on social status within the peer system (e.g. Ladd, 2005). There has been an emphasis on the study of rejected children and how, for example, they are less likely to have consistent playmates, less likely to have friends or play with friends, and more likely to play with younger children. Conversely, a range of studies indicate that children who are popular or more accepted tend to be more skilled socially, are more intelligent and engage in few conflicts with peers.

Most research that has examined children's recess behavior in terms of acceptance and status tends to collect data at one point in time, thus providing information on behavioral correlates, rather than the possible causes of acceptance and social status. A few longitudinal studies have found that positive social interaction, cooperative play and sustained interactions with a wide range of peers appears to be related to greater peer acceptance and popularity at a later point. On the other hand, children who were more aggressive, excluding of others or had interactions high in conflict were subsequently lower in social acceptance and higher in rejection, and those that behaved inappropriately and were more solitary appeared to be more overlooked. Children who are rejected or marginalized may eventually come together to form groups of similarly aggressive youth which may lead to problems later.

One limitation of much psychological research on peer relations, in terms of social status, is that it is predominantly based on associations with specific outcomes. There is a dearth of studies that examine everyday social interaction processes through which these associations are manifested. How, for example, in terms of everyday behavior, does social rejection develop and manifest itself?

<B> Breaktimes and friendships

There is extensive literature on the development of children's friendships and readers interested in this broader topic are referred to the many reviews of research in this area (e.g., Bagwell & Schmidt, 2011; Blatchford, et al., 2016). Here we focus on the role of breaktimes in the formation and development of friendship.

There are several ways in which the activities that children engage in during breaktimes are meaningful for their friendships and peer relations (Blatchford et al., 2016). First, playful activities and games can act as inherently motivating social scaffolds which support the development of social interactions of children who are unfamiliar with each other, for example at the start of school.

Second, games and playful activities can function to strengthen and consolidate friendships and peer groups as well as contribute to a shared identity as a group. Once relationships are established, members collaborate in the elaboration and embellishment of games and development of new frames of reference for playful activity. The game increasingly acts as the gel for the social relationship, offering repeat experiences and opportunities for the development of joint social understanding. According to Pellegrini et al. (2004), as groups stabilize, the variety of games played reduces and members focus in on playing particular games.

Third, breaktime activities can also function as a super-ordinate goal that assists in the bridging of difference, for example between ethnic groups or members of the opposite sex. Much early research led social psychologists to understand that, in addition to contact, there is a need for a super-ordinate goal to provide the basis for collaboration that can bring about new relationships and understandings. Play and games as expressed during school breaktimes can also offer opportunities for social exploration. This may involve relations with the opposite sex where children explore gender roles, stereotypes and boundaries through play and games.

<B> Breaktime activities and groups and networks
Research on peer relations often focuses on variables relating to individual pupils and tends to miss its complex group based nature. Even the common presumption of the dyadic nature of friendships is questionable from the point of view of breaktime activities; it is rare that children meet only with their one friend but rather they meet with them in the company of other friends, and friends of friends.

There has been an increasing focus on social networks in terms of group formation, position in the group and socialization effects. Here we focus on research that has sought to examine peer groups within play environments like those at breaktime, rather than providing a full review of research on peer networks (see Kinderman & Gest, 2009, for a review of research in this field).

Like much research on children's peer relations, research on peer networks has not examined peer groups as they naturally form on playgrounds or other 'open' settings. In the Spencer UK study, playground groups were identified on the basis of the level of involvement in groups, along with roles in the group activity and friendships that existed between children. Breaktime groups tended to be single sex with males tending to form the largest and females the smallest groups. The clear gender split may be explained by different play styles and activity preferences. Benenson (2014) suggests that boys tend to be more focused on preserving group relations whilst girls tend to focus more on individual personal relationships. This interpretation appears consistent with data indicating that boys sustain larger, more interconnected and more stable social groups over and above activity groups, while girls play in their groups which are also less stable over time (Baines & Blatchford, 2011).

Group members may adopt complementary roles, yet there has been relatively little research on this. Some researchers have identified roles based on the social skills expressed by children or by their involvement in the verbal coordination and organisation of playful activity. Blatchford and Baines (2010) distinguished between different levels of game involvement in terms of 'key players' (those who tended to instigate, organise and lead games), 'central players' (those vocally active in play organisation), 'team players' (those who tended to respond and engage in the activity), 'hoverers' (those who did not persist with the group activity) and 'solitary players' (those who tended to be less involved in group play activity). Other research studies have also differentiated roles within the group in terms of the social hierarchy or popularity within the group.

<B> Bullying and victimisation
Breaktimes can have a more negative side. Unfortunately bullying and victimization often take place during break and lunchtimes when children are free to socialize in their own way and particularly where adult supervision is low (Smith, 2014). Many schools thus seek to reduce bullying by shortening breaktimes, and/or by controlling what children do through more structured activity. Though understandable, this misses the important value of these breaks for children's enjoyment and social development and probably transfers the problem to other contexts (e.g., outside of school). Schools and school policies need to adopt a more inclusive ethos that supports those that stand up to bullying and provides children with clear strategies for doing this (Smith, 2014).

<B> **Breaktimes and School adjustment**

Breaktimes make up a substantial part of the school day and may have a significant role in influencing children's sense of belonging and adjustment to school. Theories of motivation emphasize the importance of feelings of relatedness for adjustment to school. Being accepted, having friends and the opportunity to interact with social groups during breaks may partly fulfill these needs. Conversely, those children who experience difficulties socializing with peers may find breaktimes difficult and may have problems adjusting to school (Ladd, Kochenderfer-Ladd, Visconti & Ettekal, 2012). There are also times when the peer culture within the school holds general anti-school attitudes; in some schools young people may feel little connection with the school values. Further research is required to examine connections between playground social life and engagement with the academic priorities in school.

<B> Breaktimes and social skills and school learning

There has been interest in the optimal timing and length of breaks. Some studies have manipulated the length of a lesson leading up to a breaktime and/or students' ability to engage in physical activity. These studies indicate that the longer students are required to focus their attention on a task the less likely they are to be attentive, and that children are more engaged and better behaved, especially immediately after a breaktime, than towards the end of the lesson immediately prior to the break (see Ramstetter et al., 2010). Such studies are limited because it is impossible to attribute the cause to having a break, or opportunities for play, physical activity, or for socializing with peers.

A specific area of interest concerns the relation between breaktime and social skills. It is now well accepted that friendships can support cooperation, reciprocity, effective conflict management, intimacy, and commitment. Maxwell (1990) suggests, "The peer group provides arguably the most efficient and highly motivating context for the learning and development of social skills which will ultimately enable children to live effectively as a member of adult society." (p. 171). During their playful interactions with peers at breaktime, children can learn and develop important social skills (Blatchford et al., 2016). Socialization at playtime can provide the context for lessons relevant to adult life (see Pellegrini, 2005).

Researchers have drawn parallels between the activities that take place informally between peers on the playground and the more formal side of school learning (Blatchford & Baines 2010; Howe, 2010), but the evidence that play and games are related to learning in the classroom is not substantial. There is research that indicates that play provides many opportunities for the development of basic academic skills such as oracy, literacy and numeracy, and non-verbal logical reasoning as well as understanding about life and culture. Both UK and US components of the Spencer research found that game facility/ game involvement was associated with teacher ratings of achievement and adjustment to school and uniquely related to progress over time (Pellegrini et al., 2004). This indicates that those most socially involved in play activities are likely to be better adapted to school but provides relatively little insight into the mechanisms that may explain these associations.

There are clear overlaps between play and classroom learning activities (e.g., creativity in socio-dramatic play and creative writing skills, counting rhymes and number), but the extent to which skills transfer between situations is under studied. It may be that playful social activities have more of an impact on individual social skills and understanding, the ability to work with others as a group, and other 'life' or 'soft' skills which support learning but are not part of the formal curriculum. There is good evidence that friends collaborate better together on academic tasks than non-friends. This suggests that repeated interactions with friends during playful activities might prepare friends to be more successful at engaging in complex collaborative tasks in the classroom.

The potential associations between breaktime play, peer relations and learning within the classroom deserve more research attention. Some of the planning, reasoning, problem solving and explaining skills that are commonly required for collaborative learning, may be first experienced in play and games.

<A> **4. Conclusions**

This chapter has suggested that, in contrast to an indifferent or negative view, school breaktimes have a positive role to play in child social development, the development of relationships with peers and school

functioning. Following a legal geographical term in the UK, breaktimes can be conceived as a 'site of special scientific interest' since they can provide a window into many aspects of social development.

There are two suggestions regarding future research on breaktimes. A limitation of psychological literature is it focuses on peer relations constructs in a generalized way, independent of the contexts within which development takes place, and without a deep understanding of the behavioral processes through which constructs are manifest. If we want to understand children's social development, we need to study how these constructs emerge out of the everyday reality of children's interactions and playful activities with others.

Second, the time may be right to design good studies evaluating the role and value of breaktimes in relation to social relations and learning. Research on the role of timing of breaks relative to learning is not sufficient and may be ignoring the important contribution of playful social activity to children's developing skill set. To date there are no studies, to our knowledge, with the methodological strength to establish these important connections.

If breaktimes are a useful venue for researchers, they can also have value for educators. Better understanding of peer relations and peer cultures at breaktime can aid school management and teaching. Social rules, originally negotiated in the playground, may form the basis for broader peer interaction patterns in class. Peer relations in classrooms tend to be neglected but children learn much from each other and the teacher's input is often mediated through peer relationships.

Cross references

References
Bagwell, C.L., & Schmidt, M.E. (2011). *Friendships in childhood & adolescence*. New York: The Guilford Press.

Baines, E. & Blatchford, P. (2011). Playground games and activities in school and their role in development. In A. D. Pellegrini (Ed.), *The Oxford Handbook of the Development of Play*. New York: Oxford University Press. DOI 10.1093/oxfordhb/9780195393002.013.0020

Baines, E., & Blatchford, P. (in preparation). School break and lunchtimes and young people's social life: A follow-up national study in 2017 - Final report to the Nuffield Foundation.

Benenson, J.F. (2014). *Warriors and worriers: The survival of the sexes.* New York: Oxford University Press.

Beresin, A. (2016). Playing with time: Towards a global survey of recess practices, *International Journal of Play, 5*(2), 159-165. doi.org/10.1080/21594937.2016.1203920

Blatchford, P. (1998). *Social life in schools: pupils' experiences of breaktime and recess from 7 to 16 years*. London: Falmer Press.

Blatchford, P., & Baines, E. (2006). *A follow up national survey of breaktimes in primary and secondary schools* (Report to Nuffield Foundation Ref: EDV/00399/G). Retrieved from http://www.breaktime.org.uk/Publications/NuffieldBreakTimeReport-WEBVersion.pdf

Blatchford, P., & Baines, E. (2010). Peer relations in school. In K. Littleton, C. Wood & K. Staarman (Eds.). *Elsevier handbook of educational psychology: New perspectives on learning and teaching.* New York: Elsevier.

Blatchford, P., Pellegrini, A., & Baines, E., (2016). *The child at school: Interactions with peers and teachers (2nd Edition)*. London: Routledge.

Howe, C. (2010). *Peer groups and children's development.* Oxford: Blackwell.

Kinderman, T., & Gest, S. (2009). Assessment of the peer group: Identifying naturally occuring social networks and capturing their effects. In K. Rubin, W. Bukowski, & B. Laursen, (Eds.), *Handbook of peer interactions, relationships and groups* (pp. 100-120). New York: Guilford Press.

Ladd, G. W. (2005). *Children's peer relations and social competence: A century of progress*. New Haven, CT: Yale University Press.

Ladd, G. W., Kochenderfer-Ladd, B., Visconti, K.J., & Ettekal, I. (2012). Classroom peer relations and children's social and scholastic development: Risk factors and resources. In A. Ryan & G. W. Ladd (Eds.), *Peer relationships and adjustment at school* (pp. 11–50). Charlotte, NC: Information Age.

Maccoby, E. E. (1998). *The two sexes: Growing up apart, coming together*. London: Harvard University Press.

Maxwell, W. (1990). The nature of friendship in the primary school. In C. Rogers & P. Kutnick (Eds), *The Social Psychology of the Primary School*. London: Routledge.

Pellegrini, A. (2005). *Recess: Its role in education and development*. Mahwah, NJ: LEA.

Pellegrini, A., Blatchford, P., Kato, K., & Baines, E. (2004). A short term longitudinal study of children's playground games in primary school: Implications for adjustment to school and social adjustment in the USA and UK. *Social Development, 13*, 105-123. doi:10.1111/j.1467-9507.2004.00259.x

Ramstetter, C., Murray, R., & Garner, A. (2010). The crucial role of recess in schools, *Journal of School Health, 80*, 517-526. doi: 10.1111/j.1746-1561.2010.00537.x

Smith, P.K. (2010). *Children and play*. Oxford: Wiley-Blackwell.

Smith, P.K. (2014). Understanding school bullying: Its nature and prevention strategies. London: Sage.

Further reading
Blatchford, P., Pellegrini, A., & Baines, E., (2016). *The child at school: Interactions with peers and teachers (2nd Edition)*. London: Routledge.

Brief bio:
Ed Baines is Senior Lecturer in Psychology and Education at the UCL Institute of Education. He is an experienced researcher in educational psychology with particular interests in the role of peer interactions and relationships in learning and social development and, in particular, during school break and lunchtimes. He co-directed two Nuffield Foundation funded national surveys of school breaktimes and has published in this area and on grouping practices and collaborative learning within schools.

Peter Blatchford is Professor in Psychology and Education at the UCL Institute of Education. He has published 15 books and over 100 peer reviewed papers. He directed large scale research programs on the deployment and impact of support staff in schools (DISS), the educational effects of class size differences and pupil adult ratios (CSPAR), collaborative group work (SPRinG) and grouping practices in schools, school breaktimes, and the educational experiences of children with Special Educational Needs in primary and secondary schools. He is currently engaged in a three year Leverhulme funded Major Research Fellowship.

Kelly Golding is a lecturer and researcher at the UCL Institute of Education. She has undertaken research on student interactions in school corridors and other 'open' settings including at breaktimes and is a coordinator

for the EEF-funded Maximising the Impact of Teaching Assistants (MITA) project. Kelly is an experienced Secondary English teacher and senior leader.