Identifying factors that predict successful and difficult transitions to secondary school

Frances Rice, Norah Frederickson, Katherine Shelton, Chris McManus, Lucy Riglin, Terry Ng-Knight

Executive summary

What is this report and who is it for?

This report summarizes results from the School Transition and Adjustment Research Study (STARS; www.ucl.ac.uk/stars). The report aims to provide a non-technical summary and to describe the practical implications of the research findings for parents and professionals involved in the transition from primary to secondary school. Full references are included for the scientific papers generated from this work at the end of the report and the interested reader is directed to those materials for further details.

What did we do?

Moving from primary to secondary school involves a degree of apprehension for most pupils. Pupils have to adapt to a more challenging school setting with different academic structures and expectations as well as changes in social interactions with teachers and peers. A significant minority of pupils experience a range of difficulties in adjusting to secondary school as shown by lower grades, poor attendance and increased anxiety. This study aimed to identify factors that make a successful transition to secondary school more likely as well as to identify factors that increase the risk of a difficult transition. The study followed a group of approximately 2000 pupils from South-East England, UK as they made the transition from primary school to secondary school. It collected information from pupils, parents and teachers and asked about pupils' well-being, academic achievement, and their views about school and relationships with friends and teachers. We collected this information on three occasions beginning in the last term of primary school and ending in the last term of the first year of secondary school. The study design therefore allowed us to examine how pupils changed and adapted to secondary school over the course of the study. We particularly focused on the role of children's psychological adjustment, their relationships with peers and the interface between school and the family environment. These factors have not been well

examined in research to date but evidence suggests they may play an important role in children's adaptation to secondary school.

What did we find?

A successful transition involved functioning well in two areas: 1) being academically and behaviourally involved in school and 2) feeling a sense of belonging to school. These two domains can be measured reliably with a 4-item questionnaire called the Secondary Transition Adjustment Research Tool; 'START.' Reports from Year 6 teachers on the START are particularly valuable in predicting how well pupils will do at secondary school in both domains. Reports from parents are valuable in predicting pupils' belonging to school.

There was substantial instability in friendships across the transition to secondary school and losing old friendships was a major source of concern for pupils across the course of the study. Parents and pupils tended to be concerned about similar sorts of things, namely friendships and homework. Parents also had a good idea of the sorts of things their children were likely to need help with over the transition to secondary school. Parents were an important source of support over the transition period and results suggested it was helpful for parents and pupils to discuss their concerns. We have developed leaflets with some practical suggestions of how to do this.

Primary and secondary schools differed in the strategies that they implemented to help support children over transition. Different strategies were associated with better functioning in different domains. In particular, the use of systemic strategies at primary school which involve building links and continuity between primary and secondary school (e.g. bridging units - work projects that children begin in primary school and complete in secondary school) was related to lower school anxiety. A number of secondary school strategies were associated with better academic progression between Year 6 and Year 7. In the evaluation of our research, all of these strategies were rated as

high in acceptability by teachers not involved in STARS. Finally, a range of practices that secondary schools employed to support friendships was identified given that this was an area of persistent concern for pupils.

There was no single group of children who were especially vulnerable to a poor transition. Instead, there were a range of risk and protective factors that were associated with different indicators of transition success. A number of child characteristics showed fairly consistent associations with both academic/behavioural adjustment and school belonging indicators of transition success. These were children's psychological adjustment difficulties, self-control and learning motivation. These may be fruitful avenues for future research and for interventions delivered around transition, seeking to enhance transition, but also build on pupil competence and psychological wellbeing.   Other factors that warrant further consideration were child transition concerns, parent transition concerns and parent warmth. Collectively, results suggest a 'whole school approach to supporting transition.' Such an approach likely involves strategies delivered to all pupils that aim to deal with common concerns experienced by the majority of pupils in conjunction with additional strategies for vulnerable individuals delivered on a case by case basis according to the individual's needs.

What resources did we generate and where can they be accessed?

We have generated a range of materials that schools are welcome to use as part of their transition induction strategies. Some of these materials may also be useful for researchers, academics and other professionals involved in education. All of the materials are available from www.ucl.ac.uk/stars.

Available materials are:

1) Transition support booklets for pupils, parents and teachers. Schools are welcome to use these as part of their transition induction strategy. Schools that took part in STARS have particularly valued these resources.

2) The START questionnaire which we have shown is useful for predicting how well children settle in to secondary school in both domains of transition success. Secondary schools may wish to use this measure when it is not possible to visit all primary schools prior to the start of the new academic year.

3) Primary school intervention questionnaires. We have developed teacher, parent and pupil report versions of questionnaire to assess interventions used to support all pupils as well as pupils with Special Educational Needs.

4) School concerns questionnaire. This is a pupil report questionnaire that asks about commonly reported concerns about secondary school. We have shown that pupil concerns are related to transition success. The questionnaire is currently being used by research teams in the UK and Australia.

Background to the research

Moving from primary school to secondary school

The World Bank Development report identifies the transition to secondary school as one of five important life stage transitions for young people. In the UK, this transition typically occurs at age 11 and co-occurs with the biological and social changes associated with the transition from childhood to adolescence. It involves pupils having to negotiate and adapt to a more challenging school setting with different academic structures and expectations as well as changes in social interactions with teachers and peers (Anderson, Jacobs, Schramm & Splittgerber, 2000). The transition is challenging, involves a period of adaptation and the majority of pupils report that it involves some degree of stress or apprehension. Before transition, nearly all pupils express some concerns about the formal, organisational aspects of the new school system such as following a timetable as well as the informal, social changes such as older pupils (Qualter, Whiteley, Hutchinson & Pope, 2007; Rice, Frederickson & Seymour, 2011). A period of nervousness around transition is expected for most pupils but the majority of pupils, although those concerns are relatively short-lived and abate during the first year of secondary school (Rice et al., 2011). However, a significant minority of pupils experience a range of difficulties in adjusting to secondary school as shown by lower grades, poor attendance, increased anxiety and disruptive behaviour (Anderson et al, 2000; Galton, Morrison & Pell, 2000). Adaptation to secondary school can affect psychological adjustment and academic attainment beyond the school years. For instance, deleterious effects on self-esteem, depression and academic attainment at age 18 have been reported in pupils who described their transition experiences as difficult (West et al., 2008).

> **The transition from primary to secondary school is therefore an important life transition that can affect children's attainment and wellbeing in the longer term.**

There is a lack of UK-based longitudinal research

Despite the evidence that the primary to secondary transition is a period of vulnerability for some pupils, there is a lack of longitudinal research focusing on this period. Longitudinal studies involve tracking individuals and taking assessments on multiple occasions rather than taking a single 'snap-shot' on one occasion. Longitudinal studies are important because they can disentangle those factors that co-occur with transition success and those that affect transition success over time and might therefore be useful targets for interventions aiming to enhance transition success. A number of existing studies have also relied on asking individuals to report on their transition experiences after they have occurred (West et al., 2008). Such retrospective methods are known to be less reliable than prospective methods (Hardt & Rutter, 2004).

The transition to secondary school is a window of opportunity for delivering interventions

Transition periods involve life changes during which individuals are particularly susceptible to change (Seidman & French, 2004; Vitaro & Tremblay, 2008). The school environment and the connection of parents and children to their school are implicated in a range of positive health outcomes for young people. Schools have therefore been identified as offering a promising opportunity for effective intervention.

> **The implication of this is that effective interventions delivered during transition periods could have long-lasting positive effects and may also be especially effective points to introduce and deliver intervention programmes** (Gottfredson & Hussong, 2011)**.**

Most schools implement formal programs to support pupils through school transition although these vary considerably in content and focus (Evangelou et al., 2008). The first year of secondary school may therefore be a window of opportunity for delivering strategies to boost pupil adaptation to the new school environment as well as pupil competence and well-being.

Introducing STARS

The School Transition Adjustment Research Study (STARS) used a prospective longitudinal design and collected information from pupils, parents and teachers on three occasions beginning in the last term of primary school and ending in the last term of the first year of secondary school. We asked about pupils' well-being, academic achievement, and their views about school and relationships with friends and teachers. Collecting this information on three occasions throughout Year 6 and Year 7 allowed us to examine how pupils changed and adapted to secondary school over the course of the study as well as to identify factors before transition that increased the likelihood of a successful transition at the end of Year 7. The aim of our study was to understand how and why poor pupil outcomes develop over the transition to secondary school and to identify those pupils most vulnerable to adverse outcomes.

> **This is of practical benefit for two reasons: 1) identifying pupils most vulnerable of a poor transition can help to ensure that limited school resources are directed where they are most needed. 2) A greater understanding of the factors involved in poor and successful transitions can help to refine and improve existing school-based interventions that aim to support pupils during this period.**

Overview of methods and data collected in STARS

We invited co-educational state schools in Greater London and South-East England to participate. Nine schools took part in the study for its entirety. There were three assessment phases: one in the summer term of Year 6 (May 2012); one in the autumn term of Year 7 (November 2012) and one in the summer term of Year 7 (May 2013). We therefore aimed to collect data from pupils, parents and teachers on three occasions spaced approximately 6-months apart. For the first assessment phase (at the end of Year 6), we contacted and invited prospective Year 7 pupils and their parents to participate via the secondary schools. We used this approach because our pilot study showed that contacting pupils and parents via the primary schools would not be feasible due to the large number of primary schools feeding in to each secondary school. In the summer term when pupils were in Year 6 and were due to attend one of the nine participating secondary schools, we wrote to parents and pupils and asked them to complete a questionnaire. When parents gave consent, we also wrote to primary school teachers to ask them to complete a questionnaire about the pupil.

At the second and third assessment points, pupils were asked to complete questionnaires during the school day. Parents were again invited to complete two further questionnaires by post. We also asked secondary school teachers to complete a questionnaire about each pupil. We also undertook a number of other assessments which are described below.

STARS assessments undertaken that are referred to in this report

1. Questionnaire assessments from parents, pupils and teachers on three occasions.

2. At each participating secondary school, a semi-structured interview was carried out with the member of staff who had responsibility for co-ordinating or overseeing the co-ordination of the transition process. Interviews were recorded, transcribed and coded. Using thematic analysis, we developed a list of separate interventions and specifically examined school support for peer relationships.

3. Socio-cognitive-maps of the classroom peer group at the beginning and end of Year 7

4. Full friendship networks in each secondary school.

5. Semi-structured interviews with children with autistic spectrum disorder (a group that may be vulnerable during the transition period) asking for their reflections on their transition experiences.

6. Evaluation interviews with secondary school staff asking for feedback on resources generated for pupils, parents and teachers as well as any changes in practice that have occurred as a result of taking part in the study.

7. Evaluation feedback from pupils on the resources generated from the study.

8. Evaluation and ratings of acceptability of strategies employed by secondary schools to support academic attainment.

The participating sample

Participating pupils represented a range of ethnic and socio-economic backgrounds and the sample as a whole was broadly representative of the local population in terms of the proportion of pupils from economically disadvantaged households, from Black or minority ethnic backgrounds, with Special Educational Needs, with English as an additional language, and in terms of pupil attainment levels. Because the sample is representative, this means we can generalize our research findings to the local population as a whole. Figure 3 shows the participation rates for each assessment phase.

Overview of results from STARS

1. Defining and measuring transition success

To some extent, drawing generalizable conclusions from research on the transition to secondary school has been hampered by a lack of consensus on how transition success is defined as well as the fact that the majority of research to date has focused on single features of children's adaptation to secondary school such as academic attainment (Benner, 2011). Successful transitions to secondary school are likely to be multi-dimensional and include aspects of academic performance, behavioural involvement, perceptions of school, and affective experiences in school. We carried out a literature review of transition to secondary school focusing on how a successful transition to secondary school was measured. This literature review was informed by theoretical work on early school transitions, as this is the only body of work that defines pupil functioning in the context of school transitions (Birch & Ladd, 1996; Ladd & Kochenderfer, 1996). We aimed to develop a way of measuring the multiple elements of transition success. We tested this multi-dimensional measure of transition success using confirmatory factor analysis. We showed that there were two aspects of transition success: one tapping academic adjustment and behavioural involvement in school and one tapping affiliation to school. We called these 'academic and behavioural adjustment' and 'school-bonding.' Academic and behavioural adjustment was measured by good attendance, academic attainment and classroom behaviour. School bonding was measured by pupil reports of liking school and low levels of loneliness at school. We also showed that these two aspects of transition success were predicted by (at least partly) distinct sets of risk and protective factors before the transition. This supports the view that these two factors are measuring unique aspects of transition success.

1.1 *Conclusion and implications*

Successful transition to secondary school is best considered as a multi-dimensional construct. There are two partially distinct aspects of transition success which we term 1) academic and behavioural engagement and 2) school bonding. Our research shows that this can be measured reliably and with validity. Research and practice about transition success would ideally consider both academic and behavioural adjustment, and school bonding. The fact that successful transition involves two distinct aspects raises the possibility that some children may be doing well in one area of functioning but not the other. Although the two factors show partly different risk and protective factors associated with success in each domain, some measures assessed before the move to secondary school were related to how children did at secondary in both domains. These were: psychological adjustment; self-control; learning motivation; transition concerns and stressful life events. Interventions that either focus attention on pupils with difficulties in these areas or focus on boosting these factors could potentially improve transition success in both areas.

2. A practical measure of transition success

Whilst the previous work showed that transition success involves adaptation in multiple areas of functioning we recognised that it might not be practical for schools to collect large amounts of information on pupil adjustment as part of the usual transition support procedures. We therefore developed a short 4-item questionnaire for completion by parents and teachers to measure transition success (Secondary Transition Adjustment Research Tool; START). This questionnaire includes two questions that assess academic and behavioural engagement (questions 1 and 4; see below) and two questions that assess school bonding (questions 2 and 3; see below). START is therefore designed to measure both aspects of a successful transition to secondary school. This measure and information on how to score it is available at the end of this report and on the STARS website at: www.ucl.ac.uk/stars

2.1 *Question stems*

Figure 1 The Secondary Transition Adjustment Rating Tool (START).

Parents (pre-transition): Do you expect your child to settle in well at secondary school?

Teachers (pre-transition): Do you expect this child to settle in well at secondary school?

Parents (post-transition): My child has settled in well at secondary school…

Teachers (post-transition): This child has settled in well at secondary school…

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1. Academically	1	2	3	4	5
2. Socially (with peers)	1	2	3	4	5
3. Socially (with teachers)	1	2	3	4	5
4. To the new routine	1	2	3	4	5

We examined whether parent and teacher reports of the START predicted how pupils did when they got to secondary school for both aspects of transition success. We found that Year 6 primary teachers' ratings predicted how well pupils settled in to secondary school for all outcomes (academic and behavioural adjustment i.e. academic attainment, attendance, classroom behaviour and school bonding i.e. liking school and connection to peers at school). Parent reports on the START at the end of Year 6 were good at predicting how well pupils settled in in terms of school bonding. However, reports from primary school teachers were better than reports from parents at predicting pupil academic and behavioural involvement at secondary school. An average score from Year 6 teachers of 3 (i.e. 'Not Sure') identified the lowest scoring 10% of pupils. An average score of 2 (i.e. 'Disagree') identified the lowest scoring 2% of pupils. Pupils scoring at this level are likely to require additional support in negotiating the transition to secondary school.

2.2 Conclusion and implications

The START is a reliable and valid questionnaire that is useful for assessing transition success. It is short and easy to complete which makes it practical to administer. Reports from primary school teachers are valuable in predicting transition success in all areas. Reports from parents are valuable in predicting transition success in terms of school bonding (i.e. liking school and feeling connected to peers at school). Many transition coordinators in our study reported that they tried to visit all prospective primary schools as part of the process of preparing for the new intake. Where it is not possible to do this, our questionnaire may provide a useful alternative.

3. Describing the transition-related concerns of pupils and their parents

We asked pupils and parents which aspects of moving to secondary school that they found concerning. Graph 1 shows pupil concerns before and after transition. Figure 2 shows which things pupils found most concerning at each assessment point.

Graph 1: Average pupil reported concerns. Higher scores indicate greater concerns.
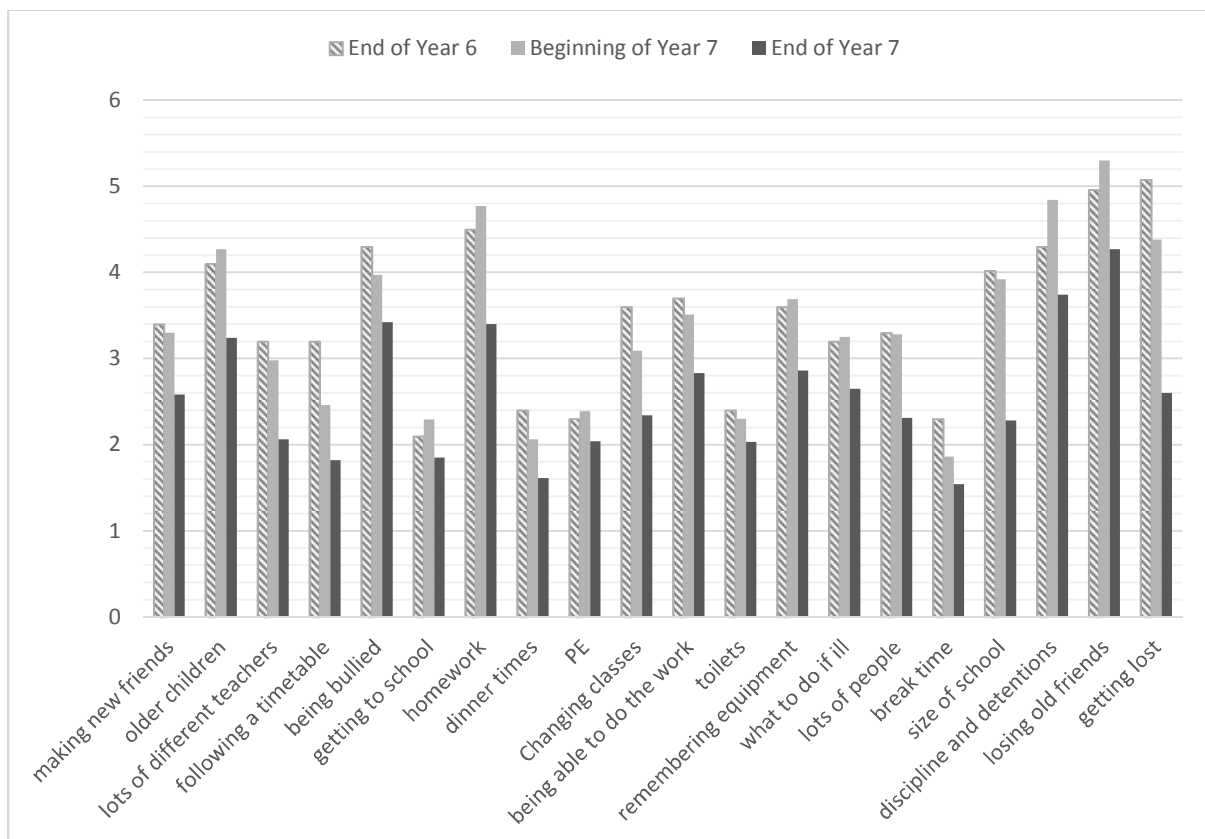
Figure 2 Top pupil concerns

Top pupil concerns (before transition)	After transition (beginning of Year 7)	After transition (end of Year 7)
1. Getting lost	Losing old friends	Losing old friends
2. Being bullied	Discipline and detentions	Discipline and detentions
3. Discipline and detentions	Homework	Being bullied
4. Homework	Getting lost	Homework
5. Losing old friends	Older children	Older children

In general, once children started secondary school, concerns reduced. However, different sorts of concerns reduced at different rates. Concerns about getting lost reduced in the first term of secondary school. Concerns about being bullied reduced in the first term of secondary school but re-emerged at the end of year 7. Concerns about discipline and detentions, homework and losing old friends took longer to decrease and did not go down until the end of year 7. Pupils therefore remain concerned about these things throughout their first year of secondary school. Pupil concerns were important in explaining how well they settled in to secondary school in terms of academic and behavioural engagement and in terms of school bonding.

3.1. Conclusion and implications

Areas that are persistently rated as concerning for pupils are losing old friends, discipline and detentions and homework. Schools may like to look at ways they can reassure or assuage these concerns given that pupils with high concerns do less well in terms of academic and behavioural adaptation to secondary school.

4. The role of the family in children's transition

The connection of parents and children to their school are implicated in a range of positive health outcomes for young people. Parents are a fundamental source of support for children. Children's need for parental support may be particularly pronounced as they negotiate the new challenges of secondary school which will include increased academic demands, a new environment and different sorts of social interactions. We have focused on examining parental concerns about the transition as well as the influence of parenting style, specifically, the extent to which parents show warmth (expressions of love, affection and support) and the degree to which they exert control in interactions with their children. Authoritative parenting (parenting that is both warm and that sets limits) tends to be associated with greater child competence compared to parenting that is authoritarian, permissive or indifferent. We examined how parent concerns and parenting style influenced children's transition success. We also examined how parenting style affected the development of children's self-control – a personality strength which we and others have shown is associated with academic attainment as well as positive classroom behaviour and a range of positive health outcomes. We expected parental warmth and non-punitive control to be related to greater self-control in children.

4.1 Parental concerns and parenting style

Before their child started secondary school, the most common things that parents thought that their children would need help with were homework and remembering books and equipment. Pupils and parents tended to be concerned about similar things with concerns about bullying, homework and friends being in the top 5-rated concerns for both parents and pupils. However, whereas parents were more worried about their children making new friends, pupils were most worried about losing old friends. Children whose parents had high levels of concerns settled in less well to secondary school academically. In general, when parents and children showed high levels of agreement about

their concerns, this was associated with lower pupil concerns once children started school. The only exception to this was when parents were very worried, greater agreement between parent and pupil concerns did not predict better transition success. This suggests that for the majority of families, encouraging pupils and parents to share and talk about their worries is to be encouraged. Parents can also help by making sure that they are sensitive when discussing their own worries. Parental warmth was an important long-term influence on children's self-control. Parental hostility and disciplinary style also influenced children's self-control but these effects dissipated with time. Thus, parental warmth was the element of parenting style that had the strongest influence on the development of children's self-control. We have also shown that children's self-control is an important factor in how well children do at secondary school for both domains of transition success.

4.2 Conclusion and implications

Parents can be an important source of support in preparing children for the transition to secondary school. Parental expressions of warmth and affection have a long-term influence on how self-controlled children are which in turn affects how well they do at secondary school both in academic and behavioural spheres.   It appears that parents have a good understanding of their children's needs in that parents and children tend to agree about what is most concerning for pupils – specifically homework and friendships. Parents could be provided with simple suggestions of ways that they could help their child prepare for the transition. Possibilities include: talking to their child about what they are both worried about; supporting homework by checking homework diaries, encouraging their child to make sure they understand the instructions for homework and starting their homework early. We have created leaflets for parents and pupils to facilitate communication and these are available at the end of this report.

5. Friendships

We carried out work describing how friendships changed across the transition to secondary school. We also examined whether different aspects of friendships (stability, satisfaction and the characteristics of the peer group) predicted how well children settled in to secondary school. We also examined how schools support friendships over the transition to secondary school. We looked at the role of friendships in detail for several reasons. First, there are substantial changes in the nature of pupil relationships with peers and teachers across transition from primary school to secondary school (Wigfield, Eccles, Mac Iver, Reuman & Midgley, 1991; McLaughlin & Clarke, 2010; Seidman, Allen, Aber, Mitchell, & Feinman, 1994; Zeedyk, Gallacher, Henderson, Hope, Husband & Lindsay, 2003). For instance, self-perceptions of social ability are reduced and peer values are perceived as more antisocial. Second, friendship groups are in a state of flux around the transition to secondary school and a major source of concern for pupils making transition to secondary school report are to do with friendship – both about forming new friendships and losing old friendships (Pratt & George, 2005; Rice et al., 2011; Zeedyk et al., 2003). Despite this, maintaining pupils' existing friendships may not be viewed as a priority by schools (Pratt & George, 2005). Third, various features of friendship most notably quality and peer characteristics affect children's psychosocial and academic development although very little research has looked at the importance of friendship stability (Poulin & Chan, 2010).

5.1 Stability of friendships

As expected, friendships were unstable over the transition to secondary school. From the end of primary school to the beginning of year 7, only 38% of pupils kept the same best friend. This figure decreased to 28% by the end of year 7. Around a third of children did not keep any of their top three friends (28% at the beginning of year 7; 38% by the end of year 7). The pattern of results was not different for boys and girls. Children whose friendships did remain stable did better

academically, had lower rates of conduct problems (e.g. being disruptive) and higher rates of prosocial behaviour (e.g. cooperating, sharing). This effect was slightly stronger for children who kept their 'very best friend' as opposed to keeping one of their three best friends.

5.2 Friendship networks

We generated friendship networks for each school. By looking at who pupils nominated as their three best friends, it is possible to generate a network that describes how all nominated friends in the same school are connected to each other. Figure 4 shows a network for one participating secondary school. We are currently examining whether children's with similar characteristics are more likely to be friends with each other. For instance, are children of the same gender or ethnicity more likely to be friends with each other than children of different genders or ethnicities? We can also examine whether certain groups, for instance children with special education needs (SEN) are included within the whole friendship network. Figure 5 shows that children with SEN are well integrated into the friendship network in one participating school.

5.3 The classroom peer-group

In year 7, we asked pupils to draw a map of 'who hung around with who' in one of their classes. Using socio-cognitive-mapping allowed us to combine the 'maps' of each pupil in each class and to come up with a map that combined the reports of all members of the groups. We then linked this to the information we had collected on individual pupils so that we could look at how characteristics of the group pupils hung around in influenced their academic attainment. A number of characteristics of the peer group influenced how children settled in to secondary school. For instance, children who were part of a large peer group had fewer concerns about secondary school and children who were part of a disruptive peer group were less likely to do well academically.

5.4 Conclusion and implications

A lasting concern for pupils across the full year of the study was losing old friends. At each study assessment, pupils rated this as one of their top five concerns about the transition to secondary school and throughout year 7 it was their main concern. The fact that friendship stability rates were low over the transition could be interpreted as legitimising this pupil concern. Stability of friendship had a small but significant influence on academic attainment, conduct problems and prosocial behaviour.

6. Describing how secondary schools support pupils

6.1 Supporting friendships and social relationships

We first examined how secondary schools supported friendships and social relations at transition given our finding that this was a persistent area of concern for pupils. We also examined how strategies employed by secondary schools influenced academic attainment. At each participating secondary school, a semi-structured interview was carried out with the member of staff who had responsibility for co-ordinating or overseeing the co-ordination of the transition process. The individual was asked a series of questions asking about what strategies the school uses to help year 7 pupils make a successful transition from primary school. Interviews with members of staff who had responsibility for co-ordinating the transition process were coded for school support for peer relationships using thematic analysis.   Figure 6 illustrates the themes that were identified from the interviews carried out the transition co-ordinators. Schools in the study varied in the extent to which they supported peer relationships. The different themes identified are described below and in each case a quote is given to describe a supportive practice.

Caring and supportive relationships

A staff member talked about it being important:

> '*to get out to the individual* [primary] *schools where only one or two students are coming from*' and '*we organise a special day in the school, so we invite the students into the school… and we also give an additional taster to those students, because in many ways they are more vulnerable because they don't know anyone*'

Understanding peer groups

A staff member described how close friendships change:

> '*they only really had one really good friend at primary school and that kept them going for seven years and then they got here and they were separated from that really good friend. The really good friend made new friends and broke that pairing, that child's left isolated within the school*'

Management of the social environment

> "*I've put together anyone who the primary schools said should stay together with any reason or not, that will have been part of my conversation with them. 'Keep Johnny with Suzy as they support each other and they'd be lost without each other', or 'keep Johnny away from Ryan because they are a nightmare and no work gets done'.*"

A staff member outlined an additional positive step that had been taken beyond pre-existing policy

and practice in changing the fabric of the school buildings:

> '*we've removed all the toilet doors so we have communal wash areas… That was our Student Council… they said they wanted toilets which were bully proof*'

Building home-school partnerships

For example through parents' evenings, which allow parents to meet their child's tutor:

> "*So at that* [parents'] *meeting where they first meet the form tutors at the end of induction day… the form teachers will hand over their own emails so they* [parents] *haven't even got to look it up so encourage pretty much constant contact*".

6.2 Strategies with a positive effect on academic progression from year 6 to year 7

We also examined how the strategies that secondary schools employed influenced academic attainment. Table 1 lists seven strategies that had a small but significant positive effect on academic attainment. Thus, pupils at the schools that employed these strategies had better attainment in Year 7 on average. The use of Home Information Gathering was associated with an improvement equivalent to one national curriculum sublevel, while the other six strategies were each associated with an equivalent of half a sub level. There was every indication from the interview transcripts that the use of each of these strategies was associated with a raft of other supportive measures underpinned by a caring school ethos. It is doubtful that implementation of any of these strategies in isolation would successfully reproduce these results. In a separate evaluation of this research, a sample of 207 teachers, rated all of these strategies as having high levels of acceptability.

Table 1 Secondary transition strategies with a positive effect on academic progression from year 6 to year 7

	Strategy	Description	Example quotes
1	Teaching groups set by academic ability	Setting pupils by ability for some subjects	*'They're set in maths and that links with science for time-tabling purposes so if they're, usually if they're in set one for maths they'd be set one for science.'*
2	Communicating primary school information to tutors	The importance of communication within school by teachers responsible for year 7 pupils to alert tutors to individual pupil needs	*'I produce this document that goes round the form staff and other staff with all those key words. You know - forewarned- even if it's just "they're fantastically bright and they've got to have extension papers". That forewarning, that knowledge, and teachers will get that before we break [for the summer].'* And *'I do a big spreadsheet ……. and I'll say have a look at your year 7 group that you're going to teach.'*
3	Support for social needs	Ensuring support is put in place for pupils who have been identified by their primary schools to have additional social needs/anxieties	'some of them have got issues of where they have been bullied at primary school, they have been upset by someone in particular there and it's how to address that when they come in to senior school, it's how do you tell someone, these are the right places to go to, this is the right member of staff to go to, it's a directive we give them as in if you think you are being bullied you need to go to that person. Or we have like a worry box, they're told all the information, what's going on around the school and where they can go if they feel upset, it gives them that as well.'
4	Environmental support	Acknowledging the difficulties that new pupils experience navigating around in the first term and endeavouring to make this easier for example, by monitoring corridor crushes or giving support to those who are late to lessons	*"Corridor crushes happen in this school because the corridors are too small and the numbers of students are too great and students are very different sizes. They can happen but there are ways of dealing with it though, you hold back. We don't have bells between lessons so you have a period of time to make it to your next lesson and choose certain routes around the school which become less congested…..''*
5	Friendship monitoring	Being alert to difficulties occurring within friendship groups	*'Every house has a teacher looking at the academics but also has a person looking at the social aspect of things as well.'*
6	Extended induction arrangements	An extended induction period	*'it's probably about a 3 week bedding-in period where they work with their mentors so they come out of lessons early, spend more time with them, they have early lunch periods, things like that, but I think it's getting it right in that first 6 weeks that's really important. Because as I said to you before, what goes wrong in the first 6 weeks can taint what happens in the next 4 ¾ years.'*
7	Home information gathering	Asking primary schools for information about a child's parent/home background	*'I will then ask for the pastoral information which will also tell me what is cross-linked with the academic. They might never do homework because they've got a chaotic home life or they are always tired in the mornings because home life is difficult so their work rate is really slow so it crosses over all of the time.'* And *'we also ask questions about levels of parental support, an increasing issue these days and I think it's important that we know whether we've got supportive parents, unsupportive parents or ineffective parents who sound supportive'.*

6. 3 Conclusions and implications

Secondary schools vary in their policies and the degree to which they support friendships as part of their work on supporting pupils making the transition from primary to secondary school. However the use of friendship monitoring and support for social needs were found to have a significant positive effect on academic progress. A positive effect on academic progress was also seen where there was a focus on providing broad support to pupils: extended induction arrangements, environmental support in school and actively finding out about supports available at home. A third set of strategies associated with positive academic progress involved an emphasis on tailoring the teaching to pupil needs from the start, by setting for some subjects or by actively utilising information from primary schools. In a separate evaluation of this research, school staff rated these strategies as having high levels of acceptability, a feature important in raising the likelihood of implementation and impact.

7. Describing how primary schools support and prepare pupils

We developed the Primary Intervention Strategy Questionnaires to measure the activities/interventions used by primary school to help prepare children for secondary school. Primary schools employed a range of strategies to support pupils making the transition to secondary school. We used a psychological framework to categorise these activities/interventions according to the theoretical mechanisms they aimed to change (cognitive, behavioural or systemic). Broadly speaking, cognitive interventions seek to change an individual's negative beliefs, behavioural interventions seek to reduce anxiety through exposure to the feared object or situation and systemic interventions focus on the impact of wider systems within which children operate such as the family and peer group. As related to transition, cognitive strategies might therefore include strategies such as talking to children about the transition during whole class discussions; behavioural strategies might include open days or exposure to aspects of transition that children fear (e.g. stricter teachers) and systemic strategies might involve building links between primary and secondary settings or including parents in intervention plans. We examined how these types of primary intervention strategies influenced children's school anxiety across the transition to secondary school. We also examined whether results were similar for typically developing children and children with SEN.

Cognitive interventions at primary: Provision of written information about secondary school, class discussions about worries, assemblies about transition and the use of web-based resources.

Behavioural interventions at primary: Visits to secondary school, additional visits to secondary school, PHSE teaching key skills, increase in homework, adapting timetables to reflect secondary arrangements, additional responsibilities at secondary school, drama workshops to develop skills needed for transition and teaching secondary vocabulary.

Systemic interventions at primary: bridging projects, peer support groups with students going to the same secondary, pupil passports, meeting parents and parent support groups.

For typically developing children, systemic strategies, in particular the use of bridging projects were associated with reductions in school anxiety over time. However, for children with SEN, this was not the case and in fact sometimes interventions that seemed effective in reducing anxiety for typically developing children increased anxiety in children with SEN.

7.1 Conclusion and implications

For typically developing pupils, these findings highlight specific strategies that primary schools should be encouraged to employ over the transition period (systemic strategies, in particular bridging projects). For children with SEN, different types of intervention from those offered to typically developing children are needed. For children with SEN, results implied that personalised interventions tailored to children's specific needs may be warranted.

8. Risk and protective factors associated with transition to secondary school

We examined the effect of a range of risk and protective factors on children's transition. We were interested in children's individual strengths such as their psychological adjustment and personality. We also examined the role of events happening in children's lives at school and at home and we considered demographic, academic and social variables that are routinely collected by schools. We had a particular interest in how children's psychological adjustment (e.g. conduct problems such as being disruptive or emotional problems such as feeling sad or worried) might influence how well children settled in to secondary school. Children with psychological adjustment difficulties were less likely to do well at secondary school than children without such difficulties. Although previous research has emphasised the importance of conduct problems on how well children do at school we also found that children with emotional problems tended to do less well following the move to secondary school. We verified this finding in a meta-analysis where we pooled together all the data published to date and found that anxiety and depression were related to lower academic grades and an increased possibility of dropping out of school (Riglin et al., 2013). There were a range of risk and protective factors associated with how well children settled in to secondary school. The combination of these risk and protective factors depended on the outcome examined i.e. whether transition success was defined according to academic and behavioural adjustment or school bonding. For instance, factors with a moderate effect on better academic and behavioural adjustment were: female gender, higher socio-economic status (not being eligible for free school meals), low parent transition concerns, high positive life events, high learning motivation, high self-control and low psychological adjustment difficulties. Results were slightly different when looking at school bonding as an indicator of successful transition.

8.1 Conclusion and implications

Collectively, what the results show is that there is not a single set of factors that increases the possibility of a poor transition. A number of child characteristics did show fairly consistent

associations with both indicators of transition success and these may represent fruitful avenues for future research and for interventions delivered around transition seeking to enhance transition but also build on pupil competence and psychological wellbeing. These variables were children's psychological adjustment difficulties, self-control and learning motivation. Parent transition concerns, parent warmth and child transition concerns may be worth considering as targets to be changed through intervention although the magnitude of association for these factors varied depending on which indicator of transition success was used.

9. Evaluation of study outputs

9.1 Secondary Transition Strategies

An independent evaluation of the acceptability to teachers of six of the seven secondary transition strategies found to be associated with academic progress in Year seven was undertaken by a third year doctoral student on a professional training programme in educational psychology at UCL who had not had any previous involvement with the STARS project. In training to be an educational psychologist students receive extensive preparation for consulting with and training teachers in evidence-based approaches and interventions for school settings. Participants in the evaluation were 105 staff from the STARS schools and an independent sample of 102 school staff from schools that had not been involved with STARS. The staff received a presentation in their schools about the six of the seven transition approaches described in section 6.2. The strategy 'Teaching groups set by academic ability' was omitted as the decision to use this form of organisation is a policy decision that is made centrally by school leadership teams. For each of the six strategies the presentation comprised an explanation of what the strategy is and how it had been employed in different schools.

Following the presentation the school staff completed an adapted version of the Intervention Rating Profile (IRP) (Power, Hess, & Bennett, 1995) for all six strategies. This measure has been shown to be a valid and reliable measure of the acceptability of school-based interventions. As can be seen from Table 2, all six strategies were rated as highly acceptable to the school staff involved in the evaluation. In previous research acceptability has been found to successfully predict implementation (Reimers, Wackers & Koeppl, 1987; Rohrbach, Graham, & Hansen, 1993).

Table 2 Acceptability ratings for the secondary transition strategies

Strategy	Mean (and Standard deviation) on the IRP (Min score=11, Max score=66)	
	Mean	SD
Information Sharing	60.76	5.57
Social Needs Supports	58.61	7.06
Environmental supports	58.24	7.12
Friendship monitoring	57.30	7.48
Extended induction activities	59.66	7.19
Home Information gathering	60.40	5.87

9.2 Information Leaflets

Following the distribution of the information leaflets (for pupils, parents and staff), the schools involved in the project were sent a short evaluation questionnaire and asked if they would give feedback either in writing or by phone. The contact staff member from two of the schools took part in telephone interviews, and one responded to the questionnaire in writing. The respondents made many positive comments about the information leaflets.

The staff leaflet was regarded as validating their approaches and concerns*:*

> *'It serves as confirmation. It shows that effectively that we are doing and we know the difficulties facing the year 6s coming into year 7. And it is evidence of what we are doing already, which is quite good from our point of view.'*

> *'it was pretty well what I expected, and yes, always the bullying – because when we go anywhere, … we go out into primary schools, that's one of the things that they are concerned about and they want to ask you about.'*

The parent and pupil leaflets were considered very useful and each of the schools had decided to include them in the information pack for their new families in the next academic year:

> *'We have actually decided to use it to put in our transition pack for next year… Because we thought, from our point of view, well this is not just us saying this. Because when the head of year 7 stands up in June and addresses parents and students on our evening of welcome to the school and this sort of thing, he says all of these things and it is actually quite helpful that it's come from somewhere else as well and that it's recognised…'*

The schools valued the information leaflets as a concise and attractive vehicle for the key messages to parents and pupils:

> *'It's nice and colourful…. the key points really.'*

> *'Yes, it's good - it's short, because I think if it was any more than that double sided I don't think they would even bother to read it.'*

We also asked pupils to comment on the information leaflet for pupils. They thought it was most useful to provide pupils with this leaflet at the end of year 6 or at the very beginning of year 7.

On the whole, pupils told us that they liked the leaflet, found it helpful and thought it was about the right length. Here are some pupils' comments:

'I think it would be very helpful to many people'

'It was very colourful. Also fun to read and use.'

'It was a nice leaflet for people to read.'

'It helped me to know that it would all be OK by the end of year 7'

'It would be useful for those who are finding it difficult to move on to secondary school'

'I believe this leaflet is very useful because it is very comforting.'

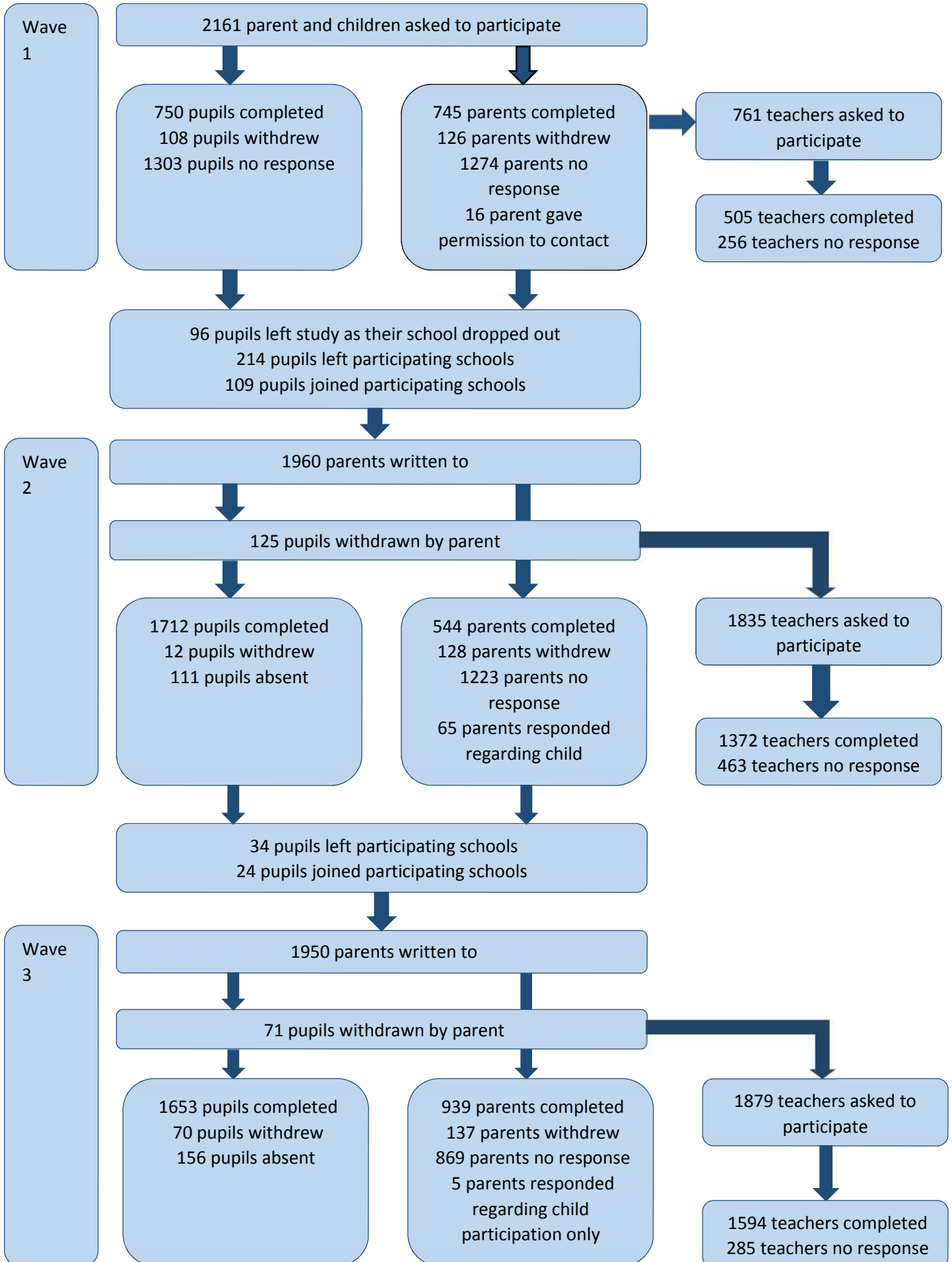*'It will help the new year 7s blend into their new school much easier'*

10. General conclusions and future work

STARS has generated a number of resources that are freely available and which may be useful for teachers and professionals involved in supporting pupils as they make the transition to secondary school. These are currently being used by a number of schools as well as research groups in the UK and internationally. We hope that other families, education professionals and academics will access them and find them useful.

No single group of pupils was especially vulnerable to a poor transition. Rather, a range of risk and protective factors increased the likelihood of a positive or difficult transition. The exact combination of these risk and protective factors depended on which outcome of transition success was used (i.e. academic/behavioural involvement or school belonging). Nonetheless, a number of factors were associated with transition success in both domains. These factors merit consideration in future work as possible targets for interventions delivered around transition which could enhance transition success as well as pupil competence and wellbeing. Collectively, results suggest a 'whole school approach' to supporting transition which involves strategies delivered to all pupils that aim to deal with common concerns experienced by the majority of pupils in conjunction with additional strategies for vulnerable individuals delivered on a case by case basis.

Figure 3 Participation rates

| Wave 1 | 2161 parent and children asked to participate |

750 pupils completed
108 pupils withdrew
1303 pupils no response

745 parents completed
126 parents withdrew
1274 parents no response
16 parent gave permission to contact

761 teachers asked to participate

505 teachers completed
256 teachers no response

96 pupils left study as their school dropped out
214 pupils left participating schools
109 pupils joined participating schools

| Wave 2 | 1960 parents written to |

125 pupils withdrawn by parent

1712 pupils completed
12 pupils withdrew
111 pupils absent

544 parents completed
128 parents withdrew
1223 parents no response
65 parents responded regarding child

1835 teachers asked to participate

1372 teachers completed
463 teachers no response

34 pupils left participating schools
24 pupils joined participating schools

| Wave 3 | 1950 parents written to |

71 pupils withdrawn by parent

1653 pupils completed
70 pupils withdrew
156 pupils absent

939 parents completed
137 parents withdrew
869 parents no response
5 parents responded regarding child participation only

1879 teachers asked to participate
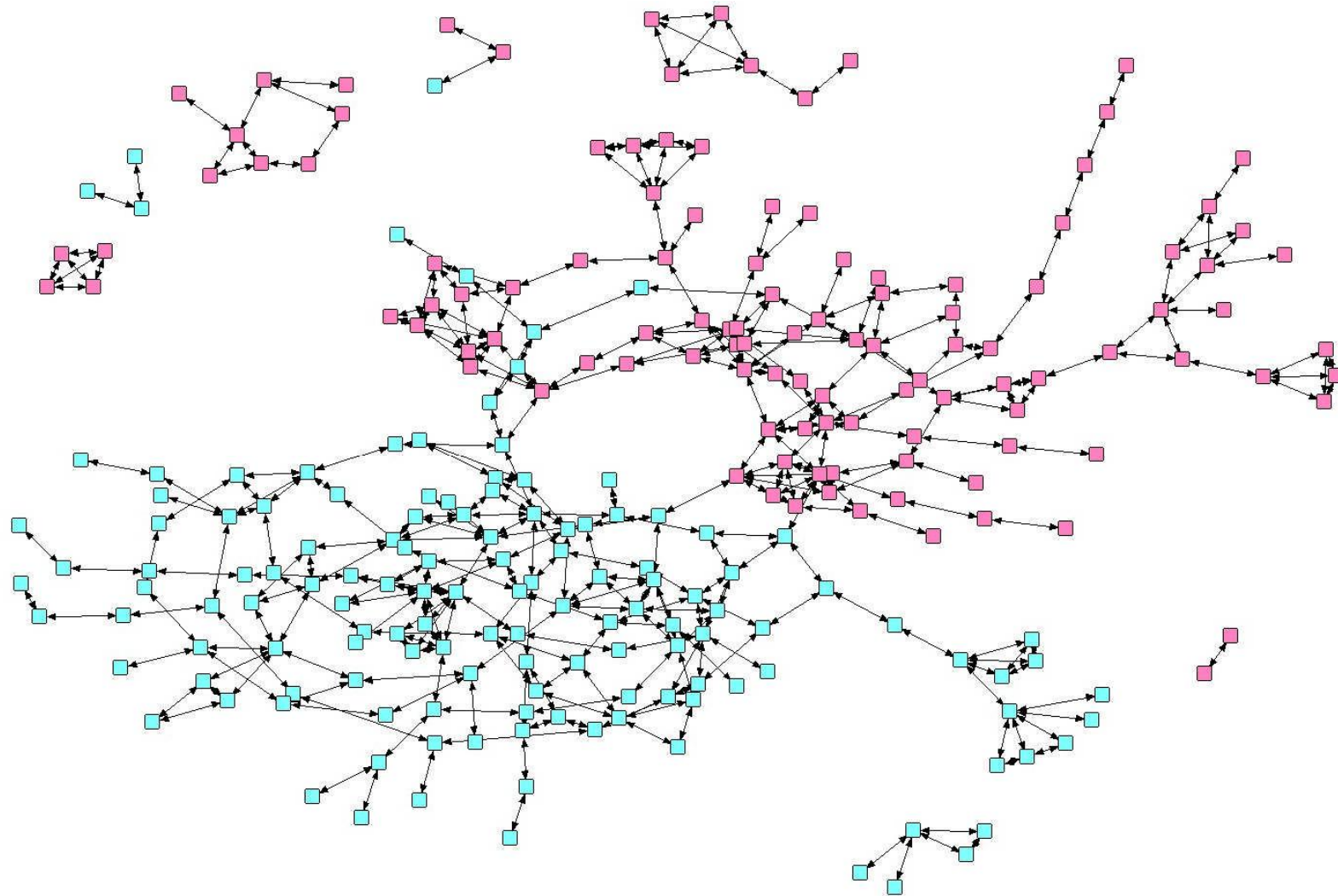
1594 teachers completed
285 teachers no response

Figure 4 A friendship network for one secondary school. Boys are shown in blue and girls are shown in pink. This example clearly indicates that friendships cluster by gender where girls tend to be friends with girls and boys tend to be friends with boys. There were three isolated children (all boys) who do not appear in the network as they did not nominate any friends and were also not nominated by anyone else participating in the study.
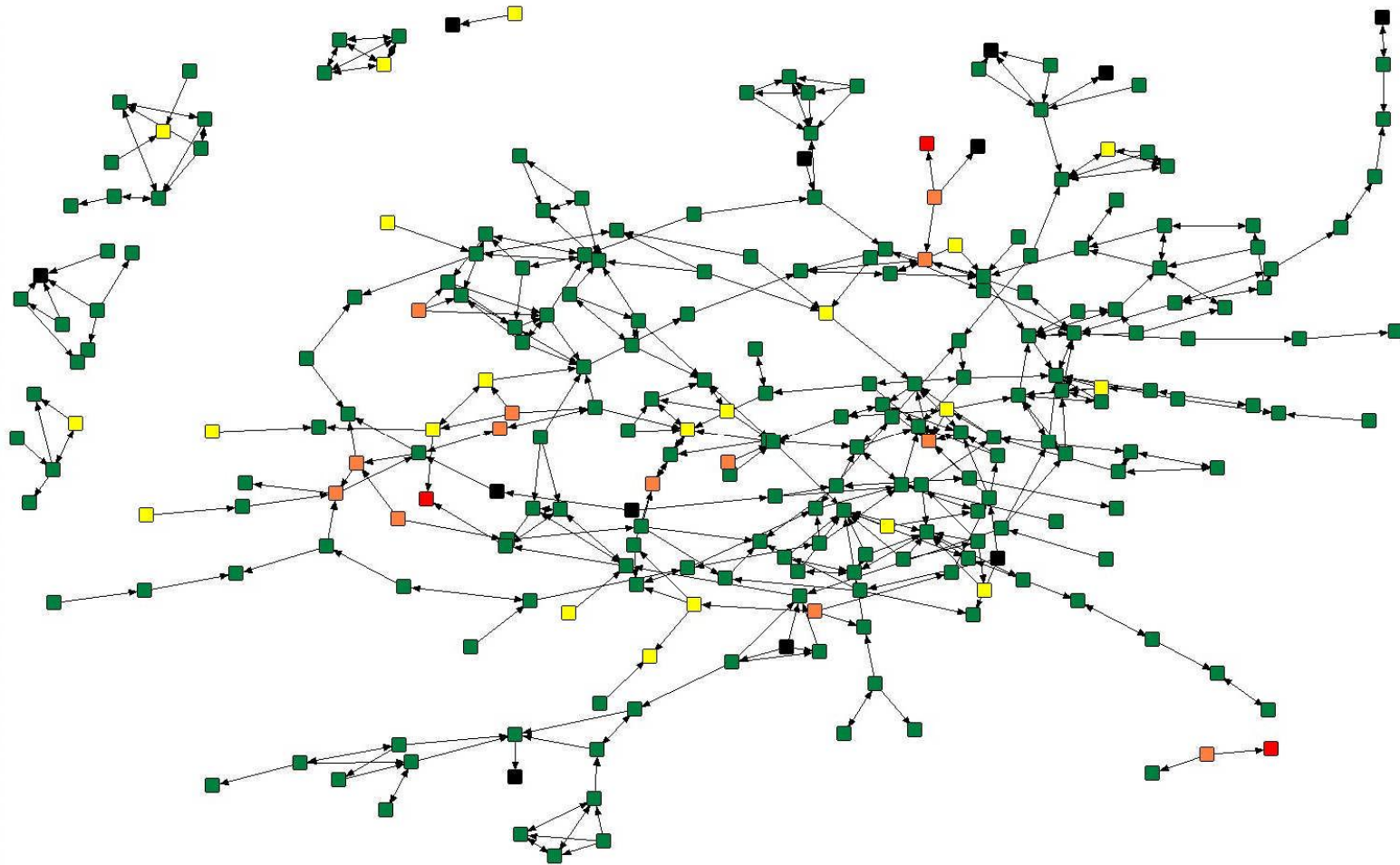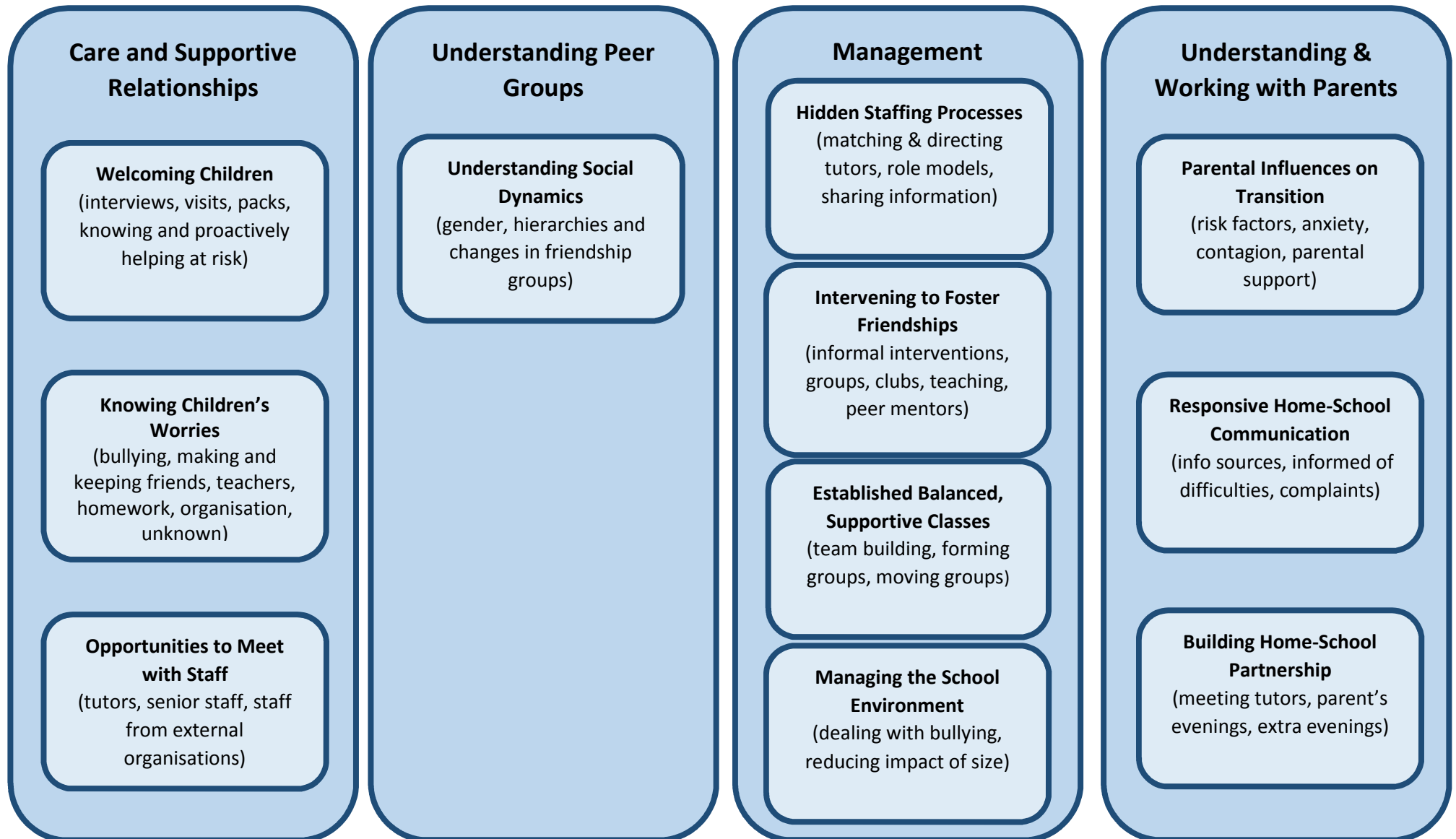
Figure 5 A friendship network for one secondary school. Typically developing children are shown in green. Children with special educational needs are shown in yellow (school action), orange (school action plus) and red (statement). Children with missing data on friendships nominations are shown in black. They may appear in the network due to having been nominated by another child. There were three isolated children (two with special educational needs; one school action; one school action plus) who do not appear in the network as they did not nominate any friends and were also not nominated by anyone else participating in the study.

Figure 6 Themes and activities undertaken by secondary schools to support children's friendships

Care and Supportive Relationships

Welcoming Children (interviews, visits, packs, knowing and proactively helping at risk)

Knowing Children's Worries (bullying, making and keeping friends, teachers, homework, organisation, unknown)

Opportunities to Meet with Staff (tutors, senior staff, staff from external organisations)

Understanding Peer Groups

Understanding Social Dynamics (gender, hierarchies and changes in friendship groups)

Management

Hidden Staffing Processes (matching & directing tutors, role models, sharing information)

Intervening to Foster Friendships (informal interventions, groups, clubs, teaching, peer mentors)

Established Balanced, Supportive Classes (team building, forming groups, moving groups)

Managing the School Environment (dealing with bullying, reducing impact of size)

Understanding & Working with Parents

Parental Influences on Transition (risk factors, anxiety, contagion, parental support)

Responsive Home-School Communication (info sources, informed of difficulties, complaints)

Building Home-School Partnership (meeting tutors, parent's evenings, extra evenings)

Published or in press manuscripts from STARS

1. Riglin, L., Frederickson, N., Shelton, K.H., Rice F. (2013). A longitudinal study of psychological functioning and academic attainment at the transition to secondary school. *Journal of Adolescence, 36,* 507-517.

2. Riglin, L., Petrides, K.V., Frederickson, N., & Rice, F (2014). The relationship between emotional problems and subsequent school attainment: a meta-analysis. *Journal of Adolescence,* 37, 335-46.

3. Riglin, L., Collishaw, S., Shelton, K.H., McManus, I.C., Ng-Knight, T., Sellers, R., Thapar, A.K., Frederickson, N., & Rice, F (in press). Higher cognitive ability buffers stress-related depressive symptoms in adolescent girls. *Development and Psychopathology.*

4. Keay, A., Lang, J., Frederickson, N (in press). Comprehensive Support for Peer Relationships at Secondary Transition. *Educational Psychology in Practice.*

Submitted manuscripts from STARS

5. Ng-Knight, T., Shelton, K.H., Frederickson, N., McManus, I.C., Rice, F. The Development of a Model for Measuring Successful School Transitions in Early Adolescence

6. Ng-Knight, T.,Riglin, L.,Hiew, Y., Shelton, K.H., McManus, I.C., Frederickson, N., Rice, F. Introducing a short measure for predicting and assessing pupils' transition to secondary school: The Secondary Transition Adjustment Rating Tool (START)

7. Neal, S., Rice, F., Ng-Knight, T., Riglin, L., & Frederickson, N. Reducing Anxiety Across Secondary Transition.

8. Ng-Knight, T., Shelton KH, Riglin L, McManus IC, Frederickson N, Rice F. Parental influences on self-control at the onset of puberty.

9. McManus, I.C., Riglin, L., Ng-Knight, T., Frederickson, N., Shelton, K.H., Rice, F. Doctor, Builder, Soldier, Lawyer, Teacher, Dancer, Shopkeeper, Vet: Exploratory study of which eleven-year olds would like to become a doctor.

10. Riglin, L., Thapar, A., Shelton, K.H., Langley, K., Frederickson, N., Rice, F. Aetiological heterogeneity in child and adolescent depressive symptoms based on co-occurring conduct problems.

Manuscripts in preparation from STARS

A number of additional manuscripts are currently in preparation addressing issues such as: the impact of friendship stability and friendship quality on transition success; the inter-face between home and school in explaining pupil transition success; the perspective of pupils with special educational needs about the transition to secondary school.

Acknowledgements

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