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Adolescents and the organisation of their school time: a review of changes over recent decades in England

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The organisation of time at school has important implications for adolescents' development and achievement, and educators' management of out-of-school time. However, this has been a somewhat neglected research area. This paper comprises a scoping review of existing literature and secondary analysis of data on school time, in order to map out the territory, identify emerging time trends, and clarify the need for further research. It finds that UK school timetables and calendars are similar over 30 years despite considerable legal freedom to re-organise them. However, subtle shifts have occurred including (a) the National Curriculum reducing flexible off-curriculum teaching time, (b) decreasing lunch-time and no more afternoon break, (c) shorter school days and extended schooling, (d) more pastoral time, and (e) the increasing prevalence of 16–18 year olds in educational tracks instead of employment. Our review points to adult agendas and cultural reproduction as driving forces behind the development of school time, rather than consideration of adolescents' developmental needs.

Keywords: school timetables; school calendars; adolescent development; time trends

Introduction

Secondary schools in England have relative freedom in how they structure their timetables and calendars. However, how they organise their time is a topic that has not received much focus in educational research nor adolescent developmental psychology, despite the fact that it clearly has implications for young people's education and physical and social development.

There are several reasons why consideration of school time might be particularly apposite at the current time. First, youth are maturing in a time of considerable social change, where globalisation and new technologies are rapidly changing the social landscape. School is a part of this landscape, and these shifts will have implications for the way in which lessons can be taught. Second, since the 1960s across England, a much larger proportion of the educational cohort are taught in mixed socio-economic and ability settings with the expanded comprehensive school system, and again this might have implications for the suitability of different arrangements of the day.

A separate theoretical context for this question about how school days are organised is provided by the burgeoning literature on positive youth development (see for example Lerner et al. 2005). It seems likely that the length and timing of

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learning sessions have implications for youths' on-task learning behaviours, motivation and achievement, and for opportunities for nutrition and relaxation and time spent with family and peers. A growing research field on out-of-school activities is beginning to shed some light on the most important features of this kind of provision for promoting healthy and engaged young people (see for example Hansen, Larson, and Dworkin 2003). Has the school day itself changed to reflect what we know is most suitable for adolescents' development?

Despite extensive social change and evidence about the need to match environments to children's developmental needs, commentators have suggested that schools continue to position much of youths' everyday lives within a school calendar designed around the needs of communities in the Victorian era (Sharp 2000), where youth follow a similar school curriculum to early twentieth century grammar schools (Moon 1994). On the surface, the general structure of school time appears to remain unaltered. However a more detailed review of evidence might unearth subtle changes occurring in school time which could potentially have a significant effect considering that the characteristics of youth have changed, even if the institutions have not.

Our interest in this area arose from work that we were undertaking for the Nuffield Foundation on social change and adolescent mental health. This is a programme of work on time trends, looking at shifts in mental health symptoms in cohorts of adolescents over the last 30 years from the 1970s to the mid-2000s (Collishaw et al. 2004), and trying to relate these to shifts in other areas of their lives (cf. Nuffield Foundation 2004, 2009a, 2009b) such as parenting and schools. This paper will not, therefore, review current debates about how we *should* be structuring school time (e.g. debates about re-organising terms or pushing back the start time); what we are interested in is a recent historical review of changes in how young people have been spending their time at school during our period of interest.

Research aims

This paper is focused on four scoping questions that aim to describe current school time structures and their development historically. Based on previous research and our own analysis of secondary data, they ask: How is school time organised for adolescents within the UK education system? How much does this vary by type of school, and for youth on different educational tracks? Has any of this changed over the past three decades? And how does any of this compare to the experiences of youth in other countries? Following this description, we critically discuss the development of school time structures in relation to adolescent development.

Methods

We have described this as a scoping review, and by that we mean an exercise in mapping the literature, establishing boundaries and definitions, and identifying gaps in evidence. This is a suitable method for a first step in a relatively unexplored area. We do not argue that what we present is a definitive account of all work on the topic, nor do we attempt a rigorous evaluation of the quality of existing research. However, the intention is to do some ground clearing and provide a descriptive picture of what we know.

In undertaking the mapping exercise we searched a wide range of databases looking for published research, government and professional reports ("grey"

literature), and sources of administrative and descriptive data. These were: (i) academic literature databases including the British Education Index, Education Resources Information Centre (ERIC), Psych Info, and the library databases of the University of Cambridge, (ii) national research and statistics databases including those maintained by the Department for Education (DfE), the Office for Standards in Education, Children's Services and Skills (OFSTED), Office for National Statistics (ONS), National Foundation for Educational Research (NFER), the Qualifications and Curriculum Authority (QCA), the Local Government Association (LGA) and the EPPI-Centre, (iii) and international databases of the Programme for International Student Assessment (PISA), the International Review of Curriculum and Assessment Frameworks (INCA) and Eurydice. Search terms included school timetables, school year, school organisation, school structure, school calendar, school schedule, flexible schooling, and time management amongst others.

The number of UK research projects specifically exploring the topic of school timetables can be counted on the fingers of one hand (Spoonor 1979; Knight 1984; DES 1990; Griggs and Griggs 1993) as can those about school calendars (Osborne 1986; Henderson 1988; Davies and Kerry 1998; LGA 2000; Sharp 2000). Research into school calendars appears to be more common in the United States and Continental Europe. Some research on school time has appeared as part of larger projects, such as *Fifteen Thousand Hours* (Rutter et al. 1979) and *School Matters* (Mortimore et al. 1988). The only project we found that looked at changes across time was the case study reported in Griggs and Griggs (1993).

The information in this report is derived from these projects, school timetables and calendars published on the Internet, reviews of the history of English schooling, several publicly available data sets (e.g. from the ONS, PISA and INCA) and data made available to us from the DfE. These latter data include schools census data and the English schools data base (EduBase) for 2008. We have also drawn on qualitative and observational material collected by the first author in previous research to provide vignettes of what the day is like for adolescents in different types of schools. These vignettes have been verified by educational professionals.

Findings

We first outline the dominant types of schools and schooling system within the 30 year period on which we are focusing. The type of school attended has considerable influence on the structure of school time. In order to know how most young people are spending their school time, we need to know about changes in *where* they are schooled.

Next we present the evidence on time trends in the structure of school timetables and calendars. Then we look at how the school day varies by institution and educational track, at the current time, and over recent years. Finally, we look at international comparisons to see if English school timetable and calendars are markedly different from those in other countries.

The structure of the English school system 1970s to 2000s

There is considerable literature on the history of the English and UK school system over the last 30 years (e.g. Moon 1994; Chitty 2002). After the re-organisation of

the tripartite schooling system (grammar, secondary modern and technical schools with selection at 11 plus) to comprehensive under the instructions of the government's Circular 10/65 (DES 1965), there has been a period of some stability. Table 1 presents some of the headline changes.

State schools

The majority of adolescents in England (approximately three quarters) attend secondary schools (age 11–15/18). These schools are mostly comprehensive but a minority are grammar schools with academic entry requirements or secondary modern schools. The 1990s saw a new wave of activity with the establishment of city technology colleges (CTCs), jointly run by the government and by private sponsors, and then the more recent academies scheme, which after its announcement in 2000 saw around 80 academies opening over a seven year period (ONS 2009), but these still only account for a very small percentage of school children.¹ Other schools for adolescents include middle schools (age 8–10 to 12–14) and high schools (until age 15/18) in the three tier system.

Over time in England, the number of comprehensive state schools has declined despite the number of children going to these schools staying by and large the same (Figure 1: DfEE 1998, 2000; DfE 2010). If portioning middle schools from the secondary schools data in Figure 1, we would see a rapid decline from around 2000 schools in the 1970s (Hargreaves and Tickle 1980) to only a few hundred (Wyatt 2007) as middle and high schools were re-organised into primary and secondary schools, possibly partially accounting for the declining number of secondary schools.

The state also runs a number of schools for children with special needs. Children with severe behavioural or emotional problems are either temporarily schooled in a pupil referral unit (PRU), or in other kinds of separate provision such as secure children's homes. The number of special schools increased dramatically in the 1970s to a high point of 1599 schools in 1979, before a slow decline to 1054 schools in 2010. Inversely, 500 PRUs registered with the DfE between 1990 and 2009 (ONS 2009) and the number of children in these schools has increased linearly from 5043 in 1992 to 16,100 in 2008, before a drop to 12,800 in 2010 (Figure 2).

Independent schools

Non-maintained schools consist mainly of fee-paying independent schools, and this can be a mixed bag. A check within EduBase allowed us to identify more refined categories based on the existing variables of establishment name, stated school type and religious affiliation. Obvious categories arising from the data and named according to our observations included *traditional grammar* and *modern grammar* type schools, schools offering *vocational training* i.e. performing arts, *international schools* offering instruction in another language, *language immersion schools* that aim to integrate foreign students into England, *alternative approaches* to education such as Montessori and Steiner schools, *charity schools* for disadvantaged children, schools with a strong *religious affiliation* such as Quaker schools, and those offering only a *religious curriculum*.

Table 1. Notable points of change in the English education system 1965–2009.

Types of schools to attend	Learning at school	Time at school
1965 – Circular 10/65 requires local authorities to re-organise to a comprehensive system (DES 1965).	1965 – Newly formed comprehensive schools copy grammar school curriculums (Moon 1994)	1979 – 35 minute lesson and 40 lesson week (eight lessons over five days) is common (Spooner 1979)
1978 – Greatest prevalence of middle schools, $N = 1690$	1987 – Core (English, Maths, Science) & foundation subjects	1984 – 8×5 lesson schedule is dominant (Knight 1984)
1980 – Many grammar schools register as independent ^a	1988 – National Curriculum	1988 – Average 24 hours of lessons taught a week (HMI 1994)
1990 – First community special school registered in EduBase ^a	1994 – Specialist schools programme	1988 – Governing bodies allowed to set academic calendar
1991/2 – City Technology Colleges open	1998 & 1999 – National literacy and numeracy strategies	
1994 – First PRU registered in EduBase ^a	2003 – DfES 14–19 reform document	1990 – DES school day circular advises 23–25 hours of lessons a week (DES 1990)
1998 – Faith schools allowed to select 10% of pupils on faith	2004 – “Tomlinson Report” proposes specialised diplomas	1995 – Lunchtimes average one hour or more (Blatchford and Baines 2008)
2000 – Academies programme launched by David Blunkett	2005 – White Paper “14–19 Education and Skills”	
2002 – First academy registered in EduBase ^a	2006 – Pilot testing of Tomlinson’s diplomas	1996 – Education Act stipulates no required teaching time of non-curriculum subjects
2009 – Middle schools reduced to n.312 ^a	2007 – QCA revised secondary curriculum for KS3 & KS4. Citizenship as a core subject at KS4	1997 – White Paper introduces minimum teaching of English and maths one hour per day
2000–2009 – Opening of many small independent faith schools ^a	2008/9 – First 10 diplomas	2005 – DfES extended schools report/guidance published
		2006 – Follow up break time survey finds a loss of afternoon break and reduced lunchtimes (Blatchford and Baines 2008)
School & work qualifications	Wellbeing at school	School accountability
1965 – Selection at 11 plus abolished (House of Commons motion)	1986 – Abolishment of corporal punishment in schools	1997 – League Tables
1984 – GCSEs replace GCE O levels	2000 – Connexions service	2005 – OFSTED measures schools with Every Child Matters outcomes

(continued)

Table 1. (Continued.)

School & work qualifications	Wellbeing at school	School accountability
1986 – NVQs	2002 – DfES Every Child Matters	2007 – OFSTED extends to inspect post-16 maintained education
1988 – Standard attainment tests (SATs) for end of Years 2, 6, 9 & 11.	2005 – Green Paper “Youth Matters” sets new standards for care of adolescents in schools	2007 – First national survey of pupils (TellUs2) by OFSTED
2000 – Vocational A levels replace GNVQs	2007 – SEAL introduced in secondary schools	
2002 – Vocational GCSEs		
2004 – Young Apprenticeships and current apprenticeships scheme		
2008 – Abolition of KS3 SATs		
2009 & 2010 – union boycotts of KS2 SATs		

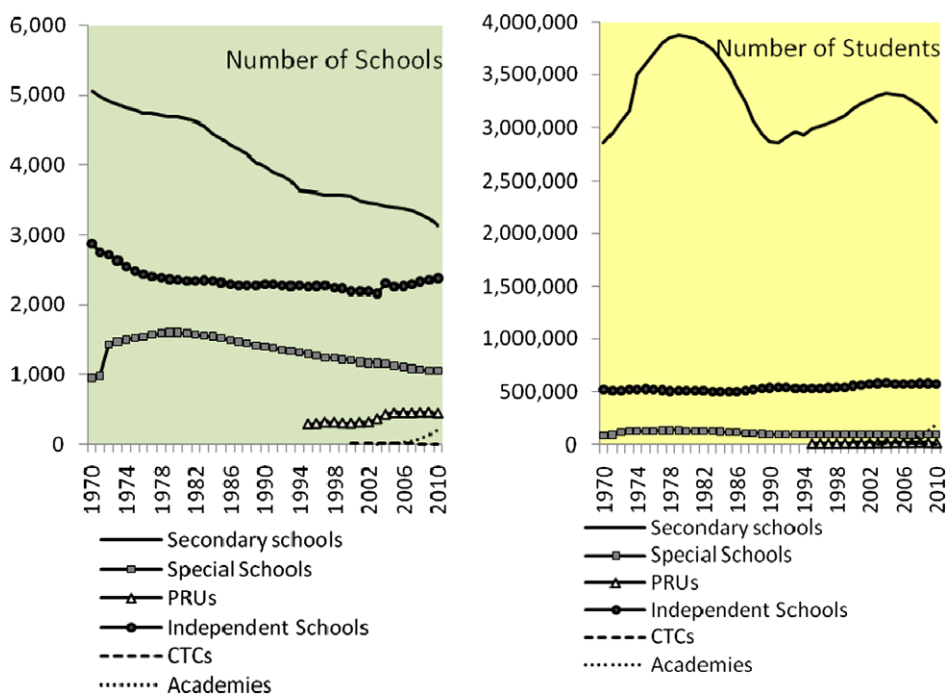
^aDerived from EduBase data.

Figure 1. Number of schools and students in England 1970–2010. Number of secondary schools includes middle schools. Number of independent schools includes Direct Grant Grammar schools up to and including 1980, and City Technology Colleges (CTCs) until 1995. Number of students is based on headcounts of full and part-time students. Data sourced from the DfE (2010) and the DfEE (1998, 2000) as provided by the Schools Data Unit.

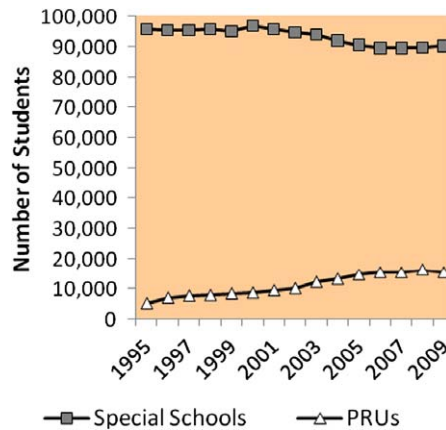


Figure 2. Number of students in special schools and pupil referral units (PRUs). Data sourced from the DfE (2010) and the DfEE (1998, 2000) as provided by the Schools Data Unit.

Post-16 education

Those electing to remain in post-16 education have a wide choice of pathways. These include sixth form at secondary, high and grammar schools or at a sixth form college, or going to a more vocationally oriented further education college that is also open to adult learners. Analysis of EduBase data shows that the majority of adolescents in post-16 education (85.9%) attend sixth form at secondary or high schools (Table 2; DCSF 2007).

The proportion staying on at 16 has changed significantly over time, as widely noted in the literature. Figure 3 shows relatively recent ONS data confirming the trend for more 16–18 year olds involved in education and training, and fewer engaged in employment across time. The relevance for our research question is that there are now many more 16–18 year olds having their day organised by schools. A smaller proportion has their time organised by sixth-form colleges.

This brief overview of the structure of the English school system and distribution of children across it over the last 30 years highlights that, in looking at the organisation of the school day, we are essentially talking about how comprehensives organise their time, with a second tier of interest in grammar, private and sixth-form colleges.

Table 2. Post-16 education institutions in England (2008).

	Number of institutions	Percentage of post-16 students
Sixth forms in schools	2645	85.9
Sixth form colleges	96	3.2
Further education colleges	273	8.9
Special further education centres	63	2.0

Data derived from EduBase 2008.

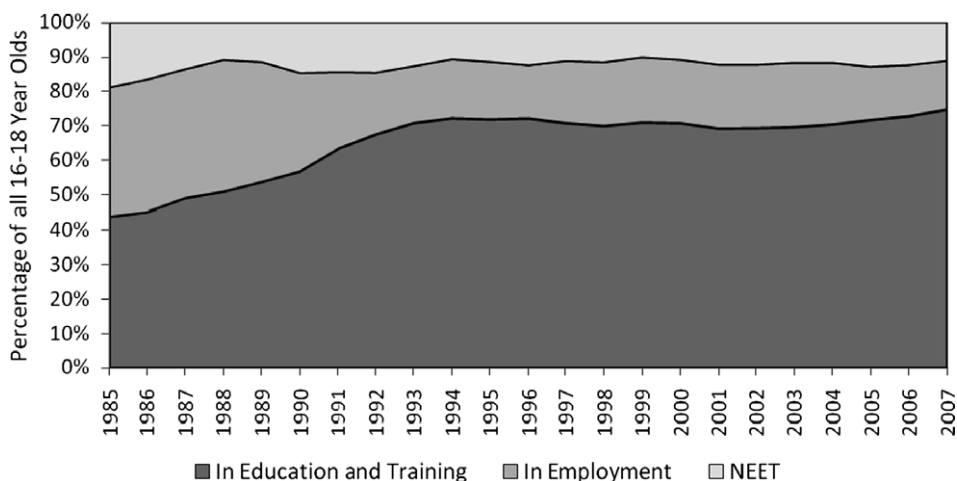


Figure 3. Percentage of 16–18 year olds in education and training, employment and NEET (not in education, employment, or training). Data sourced from the DCSF (2007).

Trends in the organisation of school time

The research uncovered by our review on English school timetables and calendars refers exclusively to state run secondary schools, presumably reflecting the fact that this is where the majority of children are to be found. We review the evidence for state schools, then discuss this given what we were able to find out about other types of schools by looking at their calendars and timetables published on the Internet.

Lesson time

It has been 20 years since there was any legal change in requirements for state school timetables and calendars. A Department of Education and Science (DES) circular (7/90) prescribes that schools teach not less than four hours of secular instruction a day in 380 half day sessions per year. The circular also notes that most schools will teach longer hours than this, in part dictated by the needs of the National Curriculum. It suggests that the minimum hours of education per week for adolescents are 23.5 hours (8–11 years) and 24 hours (12–16 years), although these are not legally binding.

Secondary, middle and high schools generally operate between the hours of 8:30/9:00 a.m., and 2:30/4:00 p.m.² In 1988, the average hourly instruction was 24 hours a week across 394 secondary schools visited by Her Majesty's Inspectorate (HMI) (DES 1990). However, the variation in lesson times within the highest 30% and bottom 5% of total taught hours per school amounted to 100 hours per year, showing considerable variation from this average, at a difference of about two hours per week on average. Cross referencing to *Fifteen Thousand Hours*, Rutter and colleagues found that total lesson time in 12 London secondary schools ranged from 21.9 to 24.2 hours a week (Rutter et al. 1979).

An education digest (Spooner 1979) is the earliest publication we found on school timetables. It describes a 35 minute lesson and 40 lesson week as being

standard for secondary schools, with eight lessons per day spread over five days (8×5). Other less common structures cited were 5×5 , 6×5 and 7×5 . Five years later a Shire survey found that 46 out of 54 middle and secondary schools employed a 8×5 structure (Knight 1984). Our appraisal of current timetables on the Internet found a 8×5 structure in operation across a range of schools including a secondary school, a CTC, an academy and a middle school.

Non-lesson time

There may be little change in the organisation of lessons and time spent in them, but is there change in the amount of time spent in other ways at school? The HMI survey (DES 1990) documented that the time spent at school outside of secular instruction ranged from 5.4 to 7.9 hours per week. This includes time spent in assemblies, collective worship and in class registration, as well as break and lunch. Most schools allow time for registration, assemblies, and tutoring in their daily schedule.

Tutor time has existed for many years in England, but is perhaps rising in popularity due to the increased prominence of wellbeing indicators used in OFSTED inspections, and the publication of the 2004 Children's Act *Every Child Matters*. In tutor time, same aged or different aged groups (known as "vertical tutoring") of adolescents spend time with a single teacher whose role is to give general pastoral and academic support to that group throughout the year. Historically, Rutter and colleagues noted that schools whose headteachers spent more time on pastoral care had worse pupil behaviours, but related this to the likelihood that more problematic cohorts of adolescents needed greater pastoral provision (Rutter et al. 1979). Other groups of children also can benefit from tutor time, for example valuing it as supportive of their academic and career identity progression in a modern day sixth form college (Schofield 2007).

In recent years the government has pushed for all schools to offer 'extended schooling' (DfES 2005) which is the provision of extra-educational and structured leisure activities (such as sport) to children after school, to bridge the gap between home time and the time that parents get home from work. Although not strictly "school time", extended schooling marked a lengthening of time spent on school premises for many children, although in other respects it could be recognised as a rebranding of things that were on-going throughout the 1970s and 1980s. As far as we know, there are no publications on time trends in non-school activity on school premises that would allow us to see the impact of the changing policy on organisation of time on school premises. The Department for Children, Schools and Families' (DCSF) evaluation of the extended schools pathfinder projects pointed out that extended schooling has a long history in England, and much of the focus of the report was on community involvement and cohesion rather than time spent in activities by children (Cummings, Dyson, and Todd 2007).

Breaktime and lunchtimes, and earlier departure

Certainly, breaktime and lunchtime have changed over our period of interest. The first known catalogue of schools' breaktime and lunchtime is Blatchford's (1998) postal survey of 1245 primary and 300 secondary schools in England, funded by the Nuffield Foundation. The survey asked schools to report their current timing of

breaktime and lunchtime and any changes to this since 1990. Although secondary schools had similar length morning breaktimes to junior and primary schools, they had a shorter lunchtime and only 13% of secondary schools had an afternoon break. Thirty five per cent of secondary schools had reduced the length of lunchtime since 1990 (Blatchford and Sumpner 1998).

A follow-up survey of 1373 primary schools and 245 secondary schools found the length of morning breaktimes to be fairly stable between 1995 and 2006, but that the practice of giving afternoon breaks, evident in 1995, had disappeared (Blatchford and Baines 2008). Time given for lunch had also reduced. Lunchtimes of 55 minutes or less occurred in over half the schools in 2006, compared to 29% in 1995. An additional pupil voice survey in the 2006 project found that most secondary school pupils did not think that their lunchtime was long enough (Year 8 = 59%, Year 10 = 64%). Recent ethnographic research from a different study found that reasons for disliking short lunchtimes in secondary school (of 35 minutes) included having to rush one's lunch in order to have time to play with friends (Symonds 2009).

The DES circular 7/90 recommended for breaks "to be long enough to refresh both pupils and teachers" (section 22). This is perhaps particularly important as breaktimes contribute to physical exercise and opportunity to play with friends in a supervised environment, therefore probably also to mental health. However as discussed it appears that schools have reduced the breaktime available to children. The reasons given by teachers for this include minimising the chances of pupils misbehaving (Griggs and Griggs 1993; Blatchford and Sumpner 1998) and obtaining more time to teach the National Curriculum (Blatchford and Sumpner 1998). In some schools, shorter lunchtimes also allow teachers to finish the school day more quickly so that staff meetings can occur in the early afternoon and there is more opportunity to mark and plan lessons (Griggs and Griggs 1993). This practice has been common at least since the 1980s, as Osborne (1986, 213) calls the lunchtime/home time trade-off a "law and order measure for lunchtime".

The placement of lunchtime has also moved closer to the end of the day, which appears to be a phenomenon of the 1980s. Knight (1984) notes how the majority of schools have moved morning break to after the first four lessons instead of the first two lessons, enabling lessons five and six to occur before lunchtime. This change of schedule may link to the popularisation of cognitive psychological research done during the 1980s which showed that children's performance on short-term memory tasks was better in the morning. Teachers have also observed that behaviour is better earlier in the day (Jones 1992). However, in a review of this research, Jones (1992) counter argues that arousal in multiple domains increases throughout the day, as does general performance on tasks other than those relating to short-term memory. He speculates that pupils may perform better and be more actively engaged in afternoon learning, whilst in the morning they may be more physically passive (hence better behaved) yet actually learn less. Jones' theories match well with more recent findings that during adolescence circadian timing shifts to later sleep and waking times (Crowley, Acebo, and Carskadon, 2007), indicating that adolescents are less alert early in the mornings before their "natural" waking time. Accordingly, adolescents who start school very early are found to retain a later bedtime and then to have increased daytime sleepiness and sleep deprivation in general (Carskadon et al. 1998). These findings have fuelled debate internationally over appropriate school start times for adolescents.

School calendars

The 380 half sessions of schooling are often taught as 190 full days to fit in with the 195 minimum days of work for state school teachers where five days are “non-contact” days (not spent teaching). The distribution of these days across the year harkens to the Victorian agricultural calendar where children were often needed away from school in the summer to help with the harvest (Sharp 2000). The religious holidays of Christmas and Easter form the basis for the other two longer breaks from school between this harvest season. Each is of around two weeks duration with Christmas being slightly shorter than Easter. This results in three uneven length terms, each of which is punctuated by a week’s half term break.

There has been continued interest in altering the structure of terms in England over the past two decades. Posited alternatives have included a four term year (Henderson 1988), a five term year (Davies and Kerry 1998) and a six term year (LGA 2000). Like the timing of the school day, schools are free to re-arrange their term structures, in consultation with their board of governors and a proposal to the Local Authority before the new school year. However many schools still operate a standard three term year.

We only found two exceptions to the relative continuity of school calendar structures across time. The first was a publication on the opening of CTCs in the 1990s which discussed their choice to use a five term year rather than the traditional three term structure (Abrams 1994). The second was a movement by several county councils to re-organise to a six term year, following the publication of an independent enquiry into the optimum arrangement for school terms, conducted by the LGA (2000). The LGA report recommended a six term year to allow for shorter and more frequent terms, a minimum of two weeks for the Christmas break, and five flexible days for either holidays or schooling as needed. In 2002, the Somerset County Council consulted teachers, parents and the general public to find that 2146 out of 3263 people surveyed were in favour of re-organisation. Their first six term year began in 2009–2010 year (Somerset County Council n.d.). Consultations have also been carried out by the Sheffield, Norfolk and East Sussex Local Authorities.

An example of timetable change: Griggs and Griggs (1993)

The recommendations on minimum teaching hours set out by circular 7/90 prompted some schools to alter their timetables to fall in line with regulations. These changes were documented in one school and were published as a case study of timetable change between 1956 and 1992 (Griggs and Griggs 1993). We have plotted these timetables alongside those from the same school for the years 2000 and 2010 to construct an example of timetable change from 1956 to the present day (Figure 4).

The now named Willingdon Community School was established in 1956 as a co-educational secondary modern school and in 1976 was re-organised into a comprehensive. In 1956 it had 270 pupils and 12 teachers, and expanded to 750 pupils and 47 teachers by 1992. Willingdon is now a specialist school for visual media and arts. There are no distinctive features which set Willingdon apart from most other secondary comprehensive schools in England. It is not in special measures, is in the lower third of the league tables for its local area and has a fairly average role

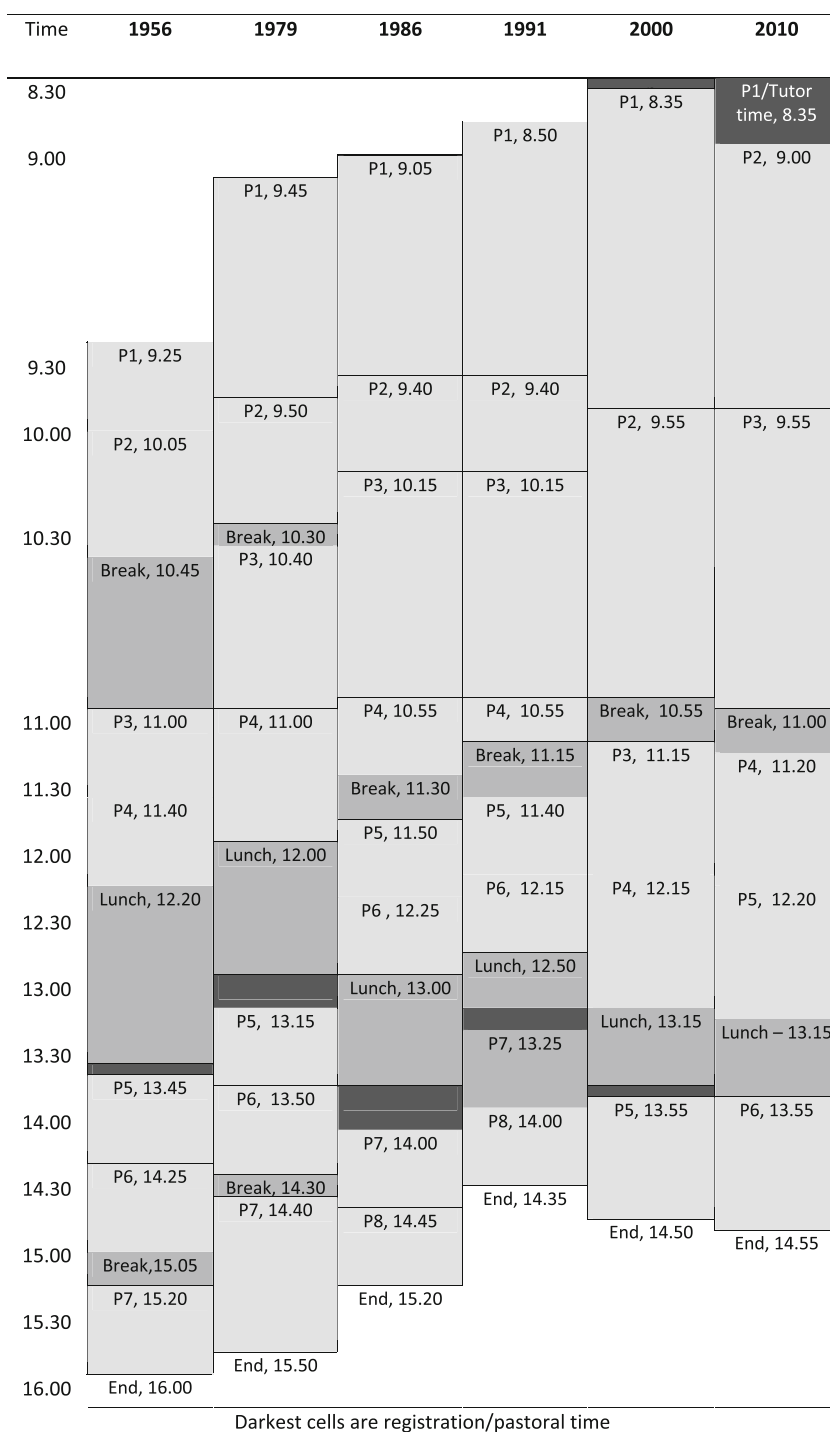


Figure 4. Willingdon Community School timetable 1958–2008. Data for 1956 to 1991 are sourced from Griggs and Griggs (1993), and for 2000 and 2010 are kindly provided by Willingdon Community School.

size for this type of institution. Therefore it is a fair example of the type of school that most adolescents aged 11–16 years attend in England.

The trends described earlier, of the shortened break and lunch allocation, the provision of more pastoral time in the form of registrations, and the 1980s trend to move lunch towards the end of the day are all present at Willingdon.

School time by institution and educational track

The aforementioned research gives very little evidence of how school time and time trends in school time might differ depending on the type of institution attended. From appraisal of a handful of school timetables published on the Internet and through prior teaching³ and fieldwork experience (Symonds 2009), we can demonstrate potential differences in how students spend their time at school depending on their regional locality, whether they are in state or independent systems, in compulsory education or post-16 education, and are in mainstream or other schools. These are summarised in the following illustrative vignettes.⁴

Life as an early adolescent in a middle school

Joanne is a Year 7 pupil (aged 11) who attends a middle school in a small town. She wakes up at 7:30 a.m. in the morning and after a quick breakfast, walks to school with her friends. School begins at 8:30 a.m. with registration. Miss Pepper calls the role and then plays some word games with the class. At 8:45 a.m., Joanne and her same ability peers attend mathematics which is followed by English at 9:45 a.m. then a 15 minute break. Then, Joanne sits with her female friends in the newly built wooden pagoda provided for rainy days, eating a muesli bar and apples from home. Following break it is double technology and Joanne spends a happy couple of hours learning how to bake scones with mixed ability pupils from two form classes. In the hour she gets for lunch, Joanne eats dinner in the dining hall then goes outside with her female friends to watch the boys play “tennis football” on the Astroturf tennis courts. There is only one more lesson after lunch (French). At 3:10 p.m., Joanne’s form class moves in a hushed line to assembly where they watch another class’s presentation on life in Africa for 20 minutes before home time at 3:30 p.m.

Life as an early adolescent in a secondary comprehensive school

Pradeep is also in Year 7, but instead attends a comprehensive secondary school in a large Midlands city. He catches the school bus at 8:00 a.m. and arrives at school at 8:30 a.m. for an 8:45 a.m. start. He spends 15 minutes with his vertical tutor group where around 20 pupils of different ages are mentored by Mr Jones. At 9:00 a.m. Pradeep attends double science (one hour 10 minutes) which is followed by two 35 minute lessons (learning skills and French). The break bell rings at 11:20 a.m. and Pradeep joins some other boys in the canteen queue, and buys a muffin and fruit. This takes up most of his breaktime and he eats his food on the way to his next classes which are English and maths. At 12:30 p.m. everyone rushes to the canteen in order to get their food quickly so they can make the most of their 40 minute break. After eating with his male friends, Pradeep moves outside to talk in a small group for 10 minutes before the bell. At 1:10 p.m., the boys change quickly

into gym gear as they look forward to afternoon football training on the large Astro turf. Then there is a house assembly at 2:10 p.m. where Mr Fisher speaks to them about the Year 7 camp. School finishes at 2:40 p.m. and Pradeep waits for the bus in the busy area at the front of school.

Life as a mid adolescent in an independent boarding school

Jamie is in Year 11 (age 15). He is woken up at 7:00 a.m. by the boys' boarding housemaster knocking on bedroom doors. At 7:30 a.m. Jamie joins a group of mixed gender peers to eat ham, eggs and toast in the school dining hall. He washes this down with two glasses of orange juice. The teenagers rush back to the dormitories to get their books and make last minute changes to their appearances. At 8:30 a.m. Jamie goes straight to mathematics where he is registered by his mathematics teacher, Mr Price. Drama follows mathematics. Then in a 30 minute break, Jamie sits with his friends on benches at the back of the school building and chats about what he will do when he is finally home next weekend. History and Spanish are next, then a 30 minute lunchtime where the children only have time to eat. A handsome "help yourself" buffet is laid out in the servery area, with four choices of main course, a salad and sandwich bar, a dessert bar and plenty of juice and water. At 1:45 p.m. Jamie registers in his school pastoral "house" (group) then Jamie attends science, geography and music before the final bell goes at 4:10 p.m. Each day after school Jamie either has to play sport or partake in a creative or intellectual activity. Today he plays rugby for 1.5 hours. At 5:40 p.m., he takes a shower and changes into casual clothes in his boarding house. At 6:00 p.m. he eats supper in the school hall: a simple affair of minute steak, baked beans and boiled vegetables. At 7:00 p.m. Jamie is back in his room before compulsory study begins. He works until 8:30 p.m., checking his mobile phone for information about the weekend when his boarding tutor is far down the corridor. After study, Jamie meets Katherine to talk about her English test and other things. They hang around outside until it gets dark and Jamie returns to the boarding house to watch some television with his friends, before lights go out at 10:30 p.m.

Life as a late adolescent in a sixth form college

Emma (age 17) cycles to college at 8:30 a.m. Classes begin at 9:00 a.m. and she is looking forward to politics with Mr Moony. Last week they had a debate on UK political structures and she is keen to know how everyone's views may have changed after the recent UK election. Her class lasts just over an hour, following which she does not have another lesson until after lunch. However there is plenty to do: her A level coursework for a start, also the stressful task of making university applications and writing a personal statement to accompany these. To write the statement she needs to consider carefully what her goals are, merits and previous achievements. It is hard work for a busy teenager! Emma finds a good spot in the resource centre and settles down to work. Her study is soon interrupted by a text message from Sarah, her best friend. Emma quickly finishes her current task in order to have a slightly longer lunch than usual with Sarah who has been having trouble with her boyfriend. At 12:00 p.m., Emma and Sarah head to the café down the road for a sandwich, coffee and chat. Then at 1:00 p.m. they return to college. Emma has two sessions: law and art history, then spends 30 minutes with her tutor,

Mr Jones, to discuss her progress and future career expectations. Instead of going home, Emma decides to stay at college for another hour to finish her latest art history assignment, then it is time to begin her part-time shift at the local co-op supermarket to earn some money to spend at the weekend.

International comparisons

By comparing England’s school calendars to those of other countries we are able to see whether the traditional three term calendar and 190 days of schooling are pervasive internationally as well as locally in England and in the UK more broadly. We conducted a secondary analysis of international school structures and achievement outcomes by using data from INCA Internet Archive (O’Donnell et al. 2009). Here we translated descriptive data (sometimes given as narrative) into data suitable for entry into the Statistical Package for the Social Sciences (SPSS). Where two values were given (e.g. 170 days minimum and 180 days maximum) the maximum value was used. All countries described in the INCA tables were included except for those without enough data for comparison on indicators used in this report. An example is the United States where there is so much inconsistency in school times that the INCA tables commonly display the term “varies” rather than exact data.

It is important to note that the INCA data on school structures are compiled from government recommendations and requirements, and in very few cases, surveys of schools. Therefore it is not a full profile of what actually happens in these countries. However, our scoping exercise suggests that national surveys on school structures do not appear to be readily available. At least government guidelines enable us to estimate what international school structures look like.

International school calendars

First we grouped countries by their type of school calendar (Table 3). Here, a long holiday was defined as one that was longer than any other holiday during the year. Sets of holidays that were of even duration, and holidays outside of a long holiday were defined as short holidays. The total number of weeks of short holidays ranged between two and 14. Long holidays ranged between six and 12 weeks.

This analysis found similarities between groups of countries that are either connected geographically (e.g. Australia and New Zealand, and countries within the UK) or appear to have no obvious connection that would influence school calendars

Table 3. International school calendar structures.

School calendar structures	Country
A: Three terms, two short holidays, one long holiday	Canada, England, France, Germany, Ireland, Northern Ireland, Scotland, Sweden, Wales.
B: Three terms, one short holiday, one long holiday	Hungary, Italy, Korea, Netherlands, Spain.
C: Four terms, three short holidays, one long holiday	Australia, New Zealand.

Data sourced from O’Donnell et al. (2009).

(e.g. Hungary and Korea). Therefore the international distribution of different school calendar structures is in part affected by local connections and in part by regional variation.

Time spent at school

Second, we reviewed the amount of time spent at school. This included the yearly number of weeks of holiday, the yearly and weekly number of days of teaching, the weekly and daily number of hours of teaching, the average maximum lesson time and age on first entry to school and age at end of compulsory schooling. We began with a comparison of the UK countries (Table 4) and then extended this to include the INCA data from other non-UK countries.

As expected, UK countries all have the same basic school calendar structure. However, Northern Ireland has a longer summer holiday and shorter breaks coming to less holiday time in total. It also has fewer hours of teaching per day and has, despite more days at school during the year, the lowest amount of time in lessons. The higher number given for time spent in lessons for Scotland is likely to have occurred as this is an average amount of time (27 hours) whereas 25 hours for England and Wales are a minimum requirement.

The same type of variation between Northern Ireland and the rest of the UK, where days spent in school do not necessarily equate to number of hours of teaching, is evident internationally. Figure 5 demonstrates that only Sweden and the Netherlands in this dataset have relatively high number of days in school *and* hours of teaching per day (eight hours). Korea has the most days at school given its six day week but in each day there is a relatively standard 5.5 hours of teaching, whereas Japan has the lowest minimum number of daily hours of teaching (four hours) and school days per year ($N = 175$). Further investigation indicates that typical Japanese schools teach far beyond these minimum requirements, and that school days in Japan look similar in length to the UK (Kids Web Japan. n.d.) and in some cases longer if children attend extracurricular activities and cram schooling

Table 4. School time in the UK.

	England	Wales	Scotland	Northern Ireland
Yearly weeks of short holidays	8	8	8	4
Yearly weeks of long holidays	6	6	6	8
Total yearly weeks of holidays	14	14	14	12
Number of weeks in the school year	38	38	38	40
Number of days in the school year	190	190	190	200
Number of school days in the week	5	5	5	5
Number of hours of teaching per day	5	5	5	4
Number of hours of teaching per week	25	25	27	22
Number of hours of teaching per year	950	950	1045	900
Age at school entry	5	5	5	4
Age at end of compulsory schooling	17	17	16	17
Total number of years spent in school	11	11	11	12
Number of years in secondary schooling	7	7	6	7

Data sourced from O'Donnell et al. (2009).

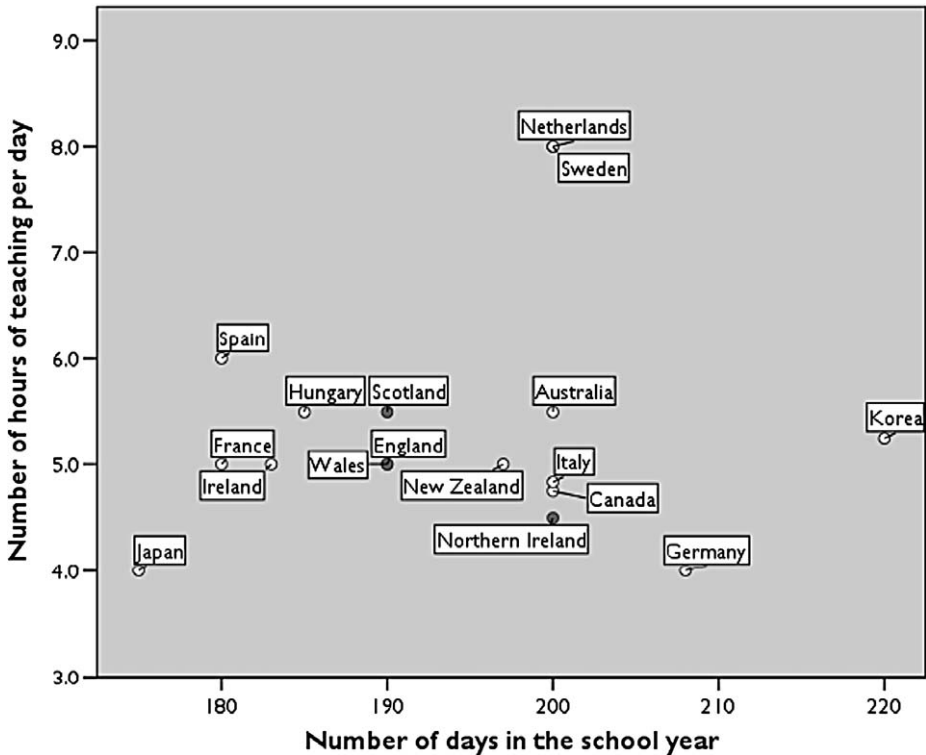


Figure 5. Amount of time spent in lessons in the school year internationally. Data sourced from O'Donnell et al. (2009).

(Education Japan n.d.). Disregarding these four extreme cases, it looks as though there is an inverse relationship between days spent at school and time spent in lessons, where countries with longer teaching hours per day have fewer days of schooling per year.

Discussion

Based on the estimate that English adolescents sleep eight hours a day, and that they attend school for 6.5 hours a day (five hours of which are spent on average in lessons), 190 days a year, the total amount of time that they spend at school comes to 21% of their waking hours. Our research showed that these hours are spent within a school time structure which has remained relatively consistent, at least at the level of compulsory education, across the past three decades. There appears to have been no real change in the number of hours spent in lessons within mainstream comprehensive secondary schools, which come to around 24 per week, nor in the widespread scheduling of school calendars, and little variation in either between school types. In addition, there is remarkably little variation in school calendars from the international perspective.

Against this background, several trends were worth noting. Because of a policy shift to comprehensive education, many more of the secondary school aged cohort are in comprehensive settings than used to be the case. Because of the increasing

proportions staying on at school after age 16, many more of this age cohort are subject to a “school” day when they are 17/18 years old, than in previous generations. There is survey evidence of a reduction in the length of breaktimes, particularly lunchtimes, and possibly a shift to earlier departures in the afternoon. Some evidence suggested that lunchtime may have shifted later in the day, making the afternoon slot shorter. Finally, there was some evidence that timetables have flexed to include a little more pastoral care time. This may provide adolescents with a more personalised relationship with a “significant adult” who provides mentorship for their psychological and social development and for their educational/career aspirations and pathways. Although there is no firm evidence on the causes of this subtle change, it is possible that it can be attributed to the Government’s *Every Child Matters* (DfES 2003) agenda which is designed to protect and nourish the wellbeing of children and adolescents.

What might be the significance of these results? The patterns we identified raise questions about whether all of these arrangements are best suited to what we now know about adolescent development. For example, although the review points to most schools maintaining a start time of between 8:00 a.m. and 9:00 a.m., there is a current debate regarding adolescent circadian rhythms, concentration and the suitability or otherwise of later start times (Carskadon et al. 1998; Crowley et al. 2007) for example at 11:00 a.m. The trend we identified for squeezing more into the morning, and moving the lunchtime break later, is possibly in contradiction of research on when adolescents are most likely to be alert. It is possible that having more lessons earlier serves to capitalise on children’s more subdued and therefore less disruptive behaviour in the mornings. But at the end of the day are young people actually learning more actively?

A separate question relates to issues of positive youth development—development of autonomy, social skills and strong identity. A fairly full research literature exists on the components of out-of-school activities that promote positive youth development (e.g. Hansen et al. 2003), but there is a research gap in relation to these issues *within* the school day. The move towards more pastoral care is likely to be positive. However, the school breaktimes research that we cited, and the Griggs and Griggs (1993) example, both indicated that schools commonly shortened their lunchtimes to reduce opportunities for behavioural problems and in part to give teachers more time for marking, planning and meetings by finishing the school day earlier. In some ways this may be good for children, in that the teachers are better prepared. Certainly however it has some type of impact on adolescent social and identity development which we can only estimate at this point without further research. We know already that peers are a stronger influence on identity development than parents (Meeus and Deković 1995) and that less breaktime might reduce opportunities for adolescents to socialise in unstructured environments with their peers. Also lunchtime provides adolescents with opportunities to formulate, publicly display and evaluate their own cliques and hierarchies (see for example Kvalsund 2000). Further research could potentially untangle some of the developmental contribution of different periods at school, in order to shed some light on the meaning of some of these changes in school day organisation.

Another consequence of shorter school days is the lengthening of free time *after* the school day, during which most adolescents probably spend time socialising with peers, watching television, gaming or doing homework during a time of the day when they are potentially more alert. This extended free time might benefit those

who actively pursue their independent hobbies and interests and who enjoy learning unsupervised, but can also have negative associations with achievement for others (Dumais 2009). The interaction between in-school and out-of-school time and activities has been rather ignored in the literature but the two are both part of the same whole day and it could be argued that there may be merit to studying their interaction.

There was quite a lot of information that was still left wanting. Despite the significant proportion of their time it represents, regular, robust survey data on how people are spending time within school seems to be rare, and this is a crucial starting point if we are to think about developmental implications. Critical evaluation of different models is lacking. It is possible that there were some potentially important changes that have gone unmeasured and unanalysed. One thing that is extremely difficult to address given the data and reports to which we had access is the way in which the organisation of the school day, and the in-lesson experiences, may differ for children on different academic tracks. Up to Key Stage 3 (KS3) the effects are unlikely to be huge; most comprehensive schools only stream for the core subjects of English, mathematics and science. But during Key Stage 4 (KS4), for those taking vocational General Certificate of Secondary Education (GCSE) exams or who are not on the standard GCSE pathway, such as adolescents in specialised independent schools or permanent exclusion centres, the way time is organised may be quite different. In addition, our review uncovered a paucity of data on the timetables of post-comprehensive educational such as sixth form colleges, despite the fact that increasing numbers of young people were staying on and experiencing these environments. The limited information that was available to us suggested that time may be structured differently in some forms of post-16 education, including, for example, more free time in sixth form colleges. This might warrant further research, as there may be implications for psychosocial adjustment. It may be quite demanding to ask some 16 year olds to self-regulate the balance of socialising, studying and other activities in a less well-structured environment. To our knowledge these types of issues have not yet been explored in the educational literature and we do not know whether schools have debated these in the construction of their timetables.

Conclusion

The messages arising from this report are simple. They are that there have been no major changes over the past 30 years in terms of school time, and that the subtle changes which have occurred seem to be angled more towards school management priorities than serving the immediate needs of adolescent wellbeing. Perhaps the biggest driver for continuity is our tendency to accept what has gone before us, and to use it as a model for present day organisations without any critical appraisal of that model in relation to the evidence base. As Osborne (1986) quotes from Knight (1984, 181) “Most of our present practice in structuring school time springs from long custom. It is encased in national and local regulations, but its real foundation is in our tradition and expectations”.

This leads us to make several recommendations for policy-makers and educational researchers. The first is for an organized effort into surveying national school time structures in order to identify the extent of homogeneity and where pockets of diversity lie. We would also recommend that there be experimental research

comparing alternative models of school time for the purpose of identifying the contribution of these structures to adolescents' personal and social development and educational engagement. In addition we suggest that it would be useful to research adolescents' and teachers' views on school time, particularly in relation to the benefits and drawbacks of social time in school, so that their perspectives form part of the picture. These type of efforts are essential if we wish to design school systems that promote positive adolescent development and facilitate social and educational progress.

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Notes

1. If we allow for an average of 1500 children per academy, the proportion is less than 2%.
2. From an appraisal of online school timetables.
3. The first author taught full time at an English independent boarding school during 2003–2004.

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