Review of Education
Vol. 2, No. 1, February 2014, pp. 1–27
DOI: 10.1002/rev3.3021

Moving to the next school at age 10–14 years: an international review of psychological development at school transition

Jennifer E. Symonds and Maurice Galton
University of Cambridge, UK

Introduction

Internationally, many adolescents transfer schools in age-graded educational systems. Often this move is accompanied by salient changes in school environment, such as replacing one classroom teacher with multiple subject specialists. Researchers have long been fascinated by how these changes impact children's psychological development. This review synthesises the findings of over 100 studies in the field within a person–environment interaction framework. First we consider how school transition alters the conditions in which children strive for relatedness, autonomy, competency, safety, enjoyment, and identity development. Then we evaluate how these person–environment interactions influence children's school engagement, academic self-concept, self-esteem and mental health. Finally we consider how gender, family and ethnic characteristics act as risk and protective factors in these processes. In addition to the synthesis of study findings, we provide a historical overview of the emergence of school transitions research in the United Kingdom and United States and chart the distribution of empirical research studies internationally and across time. The review concludes with suggestions for educational practitioners and advice for person-centred and process focused transitions research.

> You start to relax after a while and get used to it, but then you just kind of adjust. Like at dark your eyes need time to adjust, you need to adjust to your surroundings and that's what you need to do here. (Charlie, age 11 years, in Symonds, 2009)

In North America, Canada, Europe and Australasia, 10- to 14-year-old children often experience a similar type of 'transfer' or 'transition' between schools. Many switch from having a single classroom teacher in elementary or primary school, to being taught by multiple subject specialists at secondary, junior high or middle school. Whereas before they were the oldest in their school and had few similar aged peers, they soon become the youngest in a much larger student body. Post-transition school buildings and grounds are typically larger and many children commute to school using public transportation for the first time. In addition, teachers and parents

*Corresponding authors. Please direct email and telephone correspondence to Jennifer Symonds, jesymonds@gmail.com. Please direct postal correspondence to Maurice Galton, Faculty of Education, University of Cambridge, 184 Hills Road, Cambridge, United Kingdom, CP2 8PQ, UK.

can expect children to be more independent and responsible for their academic progress after transition. Research finds that children's psychology is often profoundly affected by these environmental changes. Of particular interest to this review, transition sets significant minorities of children on positive or negative pathways of emotional and academic development that can persist over many years (see Eccles *et al.*, 1997). These areas represent a general division in what children and teachers are most concerned about at transition (Topping, 2011).

In order to understand how changes in school environment impact these areas of adolescent psychology, we utilise person–environment interaction theory (PEI). This theory proposes that psychology develops out of interactions between people and their environments (see Magnusson & Stattin, 2006). For example, children who desire more autonomy than is granted by post-transition teachers can respond by disengaging from learning (MacIver *et al.*, 1986). Children deliberately interact with their environments in many ways (Buss, 1987) and here we focus on three that are commonly discussed in PEI theory. Borrowing a term from Piaget's 'genetic epistemology' (1972), we observe that children can *assimilate* environmental changes by altering their psychological schema, for example at transition they may become less emotionally dependent on close relationships with teachers, as teachers become less personal towards them. Also in line with Piaget's theory, children can *accommodate* changes within their existing mental structures, for example by rationalizing that their loss of achievement reflects school practices rather than their personal competency. Third, as well as adapting psychologically, children can *interpolate* between their psychology and the environment, by changing the environment to suit themselves, like the boy who disrupts the class in order to avoid working. School transition is a particularly useful setting for investigating PEI, as it presents us with a set of distinct environmental changes that children must adapt to.

This review uses several components of what makes up 'the person' in PEI as a model for discussing the literature on school transition psychology. First we set the context by discussing how children's *basic and developmental needs* interact with the school environment. Next we examine key areas of children's *school perceptions and mental health* that develop across transition. Third, we outline how specific *background characteristics* act as risk and protective factors in this process. The way in which this model acts as a process is elucidated below.

Children's motivation for interacting with their environment is often attributed to their desire to fulfil their basic and developmental needs. A basic need is defined as 'an energizing state that, if satisfied, conduces towards health and well-being' (Ryan & Deci, 2000, p. 74). In the school context, Ryan and Deci identify that children need relatedness, autonomy and competency to facilitate their motivation and mental health. In addition, feeling safe at school and enjoying lessons are critical to school engagement (OFSTED, 2010; Gorard & Huat See, 2011). Children's expression of these needs at transition can be influenced by their entrance into early adolescence. Even if they have no identifiable biological changes, many children of this age are expected and want to become more adult (see Symonds, 2009) and take more control of their own autonomy. Relationships with peers become more important to them (Simmons *et al.*, 1979); as these provide opportunities for social and personal development. Often, children

strive to develop competency in line with their identities and peer relationships. For positive development to occur, adolescents need safe and supportive environments in which to practice their independence from adults. In addition, the need to construct a personal and career identity comes to the fore in early adolescence (Erikson, 1968), requiring children to evaluate their strengths and weaknesses and imagine who they could become. In summary, during early adolescence and across school transition, children seek to fulfil their needs for safety, relatedness, autonomy, competence and identity development.

This drive for need fulfilment can influence children's school perceptions and mental health through the resulting state of equilibrium or 'person–environment fit' that is reached between children's needs and the school environment. For example, a child might maintain their desired for level of relatedness by forming well matched friendships at their new school. In this circumstance the child may continue to have a high social self-concept. Alternatively, if the child does not fulfil their desire they may suffer emotionally. Stage–environment fit theory (see Eccles *et al.*, 1993) takes a developmental angle on this process, by investigating how adolescents' developmental needs interact with features of post-transition schools. So far, declines in children's mathematics engagement have been associated with transfer to less fair and friendly teachers (Feldlaufer *et al.*, 1988) and more restrictive learning environments (MacIver *et al.*, 1986), indicating the ill effects of thwarting children's needs for relatedness and autonomy in early adolescence.

In this review we limit our discussion on children's school perceptions and mental health to a set of domains commonly observed in the school transition literature (Gray *et al.*, 2011). Internationally, after transition many children are found to disengage from school (Gray *et al.*, 2011) and we analyse this phenomenon by synthesizing studies of school engagement. Next we focus on children's perception of themselves as learners, operationalized by many studies as the 'academic' or 'scholastic' self-concept which ties to children's motivation and goal orientations (Harter, 1982). Outside of educational perceptions we are interested in the development of children's mental health: specifically their self-esteem, anxiety and depressive symptoms. This set of perceptions and emotions are thought to interact within children's dynamic self-construct which is a series of self-related images, schemas, conceptions, prototypes, theories and goals (Markus & Wurf, 1987). Therefore we expect that children's development in one area will be linked to changes in another, reinforcing the importance of examining multiple psychological domains.

Finally, we examine how gender, ethnicity and family background can moderate PEI processes at transition. Gender is the most frequently studied of these characteristics (see Symonds *et al.*, in press, for a review) with consistent differences in post-transition development being found across era and place. Ethnicity is also well established in the literature, with detailed studies issuing from the US and UK (see Graham & Hill, 2003; Roderick, 2003). Family backgrounds can also impact how children adapt, and studies document a range of parental influences on children's perceptions and relationships at transition. We position this last part of the review using a risk and resilience perspective (Rutter, 1985) which isolates features of these characteristics that hinder or advantage children's chances of developing productively in their new schools.

Transition literature

The review literature was initially sourced from library catalogues and online databases including ERIC, Psych Info, SCOPUS and the Web of Science. We searched for peer reviewed papers or conference proceedings with the words *transfer* or *transition* in their titles, and *school* in their title, abstract or keywords, in the fields of social sciences and adolescent medicine. Papers were selected from these results if they focused on the normative development of early adolescent children (age 10- to 14-year-olds; Eccles, 1999) at transition between schools. To this regard we excluded studies of special needs children, transition interventions without a control group and later school transitions for example at age 15 and 16 years. The reference lists of the publications were used to identify other significant studies that did not surface during our keyword search. The literature returned by these methods covered a wide range of psychological constructs. Most of these were able to be grouped into the five categories outlined above, or were relevant to children's needs or background characteristics. The remainder focused on less prevalent constructs such as emotional intelligence. These were omitted from the review to preserve its analytic power in key areas. In total, the review represents research from 104 studies published in journals and books from the US, UK and Europe.

Just under half of these studies are from North America (n = 48) whilst 43 are from the UK. Although UK transitions research rarely figures in international publications, it has a strong lineage of empirical studies, reviews and government funded research. Six studies in the review are from other European countries ('Europe'), four are from New Zealand or Australia ('Australasia'), two are from Canada and one is from Israel ('Asia'). Figure 1 charts the continental distribution of these studies across time. Peaks in this figure represent either multiple publications from a large scale study or an international convergence of studies during a particular time period. The figure demonstrates that research interest in transition has grown over the past 30 years, in particular during the previous decade.

School transition research appears to have begun in the UK (Nisbet & Entwistle, 1966). The first large scale UK research on transition was the Observational and Classroom Learning Evaluation (ORACLE) study conducted in Leicestershire in the

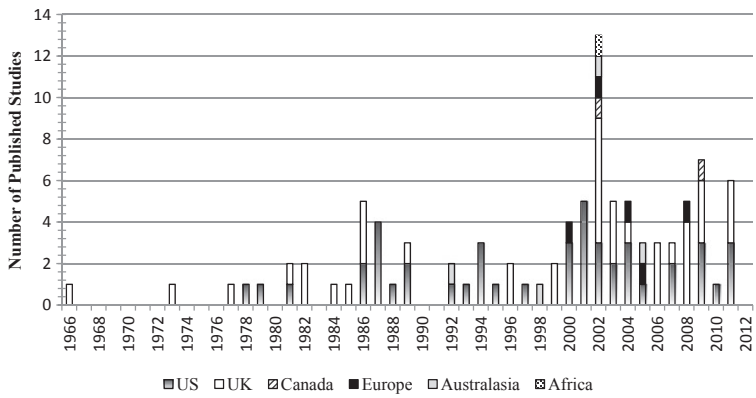

Figure 1. International distribution of studies by year of publication

mid 1970s (e.g., Galton & Wilcocks, 1983). In the mid 1980s, several independent studies were housed in an edited edition (Youngman, 1986) and the Inner London Educational Authority (ILEA, 1986) published their 'Secondary Transition Project' as 17 independent reports. Research on transition was almost non-existent during the next decade, but was revitalised in the late 1990s with the publication of the ORACLE replication study (Hargreaves & Galton, 2002). Many small scale studies appeared, focusing on how to prevent achievement loss at transition, whilst the Suffolk Local Authority (1996, 2006) performed two in depth transition studies to inform the reorganization of their educational system. In the 2000s, government funded research on transition and achievement spurred several online reports including a large scale transition study by Galton, Gray *et al.* (2003). Recently, detailed transition studies have been conducted as strands of wider investigations (see Osborn *et al.*, 2006; Evangelou *et al.*, 2008; Symonds *et al.*, 2011).

The earliest US research that we uncovered is 'The Minnesota Study' (see Blyth *et al.*, 1978). Around this time, Felner and colleagues (1981) began experimenting in Rhode Island with the School Transitional Environment Program to create more personalised post-transition environments. The most frequently published US transitions data is Eccles and colleagues' 'Michigan Study of Adolescent Life Transitions' (see Eccles *et al.*, 1993) whose sample transferred to middle school in the early 1980s, and whose multiple data sets are still being analysed. Other large scale quantitative transitions studies include the 'Maryland Adolescent Development in Context' study (MADICs) (see Wigfield & Eccles, 1994), the 'Adolescent Pathways Project' (see Seidman *et al.*, 1994) from Maryland and New York, and the 'Patterns of Adaptive Learning Study' (see Midgley, 2002). Benner and Graham's study of transition to high school in Los Angeles (2007, 2009) is perhaps the largest US transitions study in recent times.

The majority of transition studies reviewed used questionnaires or structured interviews to gather data (Table 1). Several large scale studies (ORACLE and MSALT) used multiple methods including interviews, surveys and observations, yielding a high resultant number of publications. Only a handful of studies used solely semi-structured interviews or other open-ended methods such as essays. Several transition ethnographies from the UK provide valuable qualitative data from observa-

Table 1. Study types and time scales

Methodology		Time scale	
Original surveys	56	Pre cross-sectional	3
Semi-structured interviews	15	Pre longitudinal	0
Multiple or mixed methods	11	Longitudinal (pre and post)	78
Ethnography	4	Post cross-sectional	6
Observation	3	Post longitudinal	7
Secondary data analysis	1		
Essays, diaries and emails	3		
Projective tests	1		
Research reviews	10		
Total	104		94

tions and interviews (Benyon, 1985; Measor & Woods, 1984; Delamont & Galton, 1986; Symonds, 2009). Most studies are set in the immediate pre- and post-transition year, and only a handful extend their research beyond this time (Table 1). The majority of data refer to the final pre-transition term onwards, therefore coverage of children's development is oriented towards post-transition adaptation. Furthermore, few studies compared groups of transition and non-transition children, nor had 'control' samples as also noted in Topping's review (2011).

Results

Person–environment interactions at transition

Need for safety. At transition, many children move to schools with larger and more intricate buildings and grounds. Children commonly fear getting lost (Gray *et al.*, 2011), with between 10% and 20% of children worrying about increased school size (see Brown & Armstrong, 1982; Hargreaves & Wall, 2002). Why children fear becoming lost is uncertain. However, their need to feel safe at school cannot be met if they are alone and confused. This fear might be especially prevalent in the 10- to 12-year-old age group, as compared to teenagers these children are smaller and have less experience navigating complex surroundings.

Children also express concerns for safety amongst their school peers. As a status passage to becoming more adult, transition is accompanied by myths about dangerous people and places in the next school (Delamont, 1989). A common myth dubbed the 'royal flush' tells of a younger boy having his head held in the toilet whilst an aggressor (usually an older child) pulls the flush. Other myths warn against violent gangs of same aged and older peers. Accordingly, around 30% of pre-transition children worry about being bullied after transition (see Berndt & Mekos, 1995; Zeedyk *et al.*, 2003; Evangelou *et al.*, 2008). Although fewer studies document these concerns post-transition (Gray *et al.*, 2011), for some children, victimization can become a reality. New children have reported being threatened and teased by older children (see Measor & Woods, 1984; Symonds, 2009), and for this reason making older friends is perceived as a protective factor (Kvalsund, 2000). Gangs of bullies quickly form in post-transition year groups, as aggressive boys seek to demonstrate their power in the new social hierarchy. This 'transition effect' on bullying is noted by studies with transition control groups (Blyth *et al.*, 1978) and in those of transition between schools versus transition between grades (Pellegrini & Long, 2002).

Need for relatedness. Pre-transition teachers can develop close relationships with their students over a number of years. After transition, children are often taught instead by multiple subject specialist teachers. For example in a typical English secondary school, children encountered more than 20 teachers in their post-transition year (Symonds, 2009). Because these teachers have less time to spend with children they are at a disadvantage to know them well (Jindal-Snape & Foggie, 2008). Perhaps because of this, teacher's attitudes towards children are found to be worse after transition in the US and UK (Jennings & Hargreaves, 1981; Seidman *et al.*, 1994; Ferguson & Fraser, 1998). Furthermore, children report that their post-transition

teachers care less about their feelings, are less friendly and are more unfair (Feldlaufer *et al.*, 1988), a decline which is noted to extend at least two years after transition (Skinner *et al.*, 2008). As well as having limited time to bond with children, post-transition teachers may also hold negative stereotypes of adolescents in general, which influences the emotional support they give (Feldlaufer *et al.*, 1988). In general, studies concur that teachers' emotional support often declines after school transition.

Children's relatedness with peers also undergoes changes at transition. Old friendships are dismantled, new ones form and old friends are introduced to new ones in the larger peer group (Weller, 2007). This makes for a period of relational instability, observed in a sociometric study where children reported fewer acceptances by peers and reciprocated friendships immediately after transition than later in the year (Hardy *et al.*, 2002). Despite this instability, children commonly perceive greater emotional support from their peers after transition. This trend occurs across a range of psychological measurements that include friendship quality (Wargo Aikins *et al.*, 2005; Gillison *et al.*, 2008), close friend support (Fenzel, 2000), social acceptance (Cantin & Boivin, 2004) and peer relations (Crockett *et al.*, 1989). Similarly, 'reverse' measures of social adaptation such as feelings of isolation and loneliness (Galton, Hargreaves, *et al.*, 2003), hassles with peers (Seidman *et al.*, 1994) and peer-strain (Fenzel, 2000) are found to decrease. Findings from qualitative research suggest that children are able to make a better matched group of friends in post-transition schools (Weller, 2007) and can move into larger cliques of friends (Symonds, 2009), whilst quantitative research confirms that children have more friendships after transition (Newman Kingery *et al.*, 2011). The combined outcomes of these studies imply that children have more friendships and have better opportunities to make supportive friendships in transition schools which contributes to increased perceptions of peer support.

Need for autonomy. Children can approach transition expecting to be more grown up and responsible for their behaviour (see Measor & Woods, 1984) but in reality there are few structured opportunities for autonomy at their new schools. Certainly, after transition children receive relative freedom for social interaction in lunch and break times. They are expected to behave more responsibly by adults: for example by organizing their own equipment and getting to lessons on time. They are also expected to work more independently in class, with teachers offering less personalised support than at primary school (Galton & Pell, 2002). However, opportunities to gain autonomy can be barred from new children. Rarely are they invited to sit on social or sporting committees or mentor others. Some schools allow new children to represent their class or year group on the school council (Symonds, 2009) but these positions are few. Being the youngest can also inhibit children from taking on leadership roles even when these are available.

In transition classrooms, children generally have fewer opportunities to move around freely, choose their work mates, help each other learn, say what they think, comment on what they want to learn and work on their own projects (Feldlaufer *et al.*, 1989). Only in a few progressive post-transition schools are children encouraged to guide their own learning by metacognitive and learning skills programs (Deakin Crick *et al.*, 2010). These restrictions on children's autonomy coincide with

observed increases in teacher strictness, where teachers want to control children more after transition (Midgley *et al.*, 1989) and are tougher and less accommodating of children's needs (Symonds, 2009). This crack down on children's behaviour is known in folk wisdom as 'don't smile until Christmas'; an idiom that promises teachers that if they 'start off hard and ease up later' (Benyon, 1985, p. 45) then children will become more quickly adjusted to their rules.

Need for competency. Children construct their competency perceptions by making different types of observations that alter across the transition period due to changes in the curriculum, teachers and classmates. First, children evaluate themselves by their task achievement, for example when they perform a musical piece with no mistakes (Symonds *et al.*, 2011). Accordingly, encounters with new work in post-transition schools can alter how children see themselves academically. On the one hand, children who manage to surmount tasks that are more complex and 'adult' than in their previous schools can have an enhanced perception of themselves as an 'accomplished pupil' (Symonds *et al.*, 2011). On the other hand, if the work set is too challenging for them, their competency perceptions can diminish, as explored in our section on the academic self-concept. Perhaps for this reason, many children fear harder work in post-transition schools (see Brown & Armstrong, 1982; Rudduck, 1996).

A second method is to construct competency from external feedback such as verbal reports from teachers or praise from parents. In post-transition schools, children can receive markedly different feedback from that in pre-transition schools. Post-transition teachers have known children for less time, and are therefore less able to convey accurate reflections of children's abilities. Their ratings of children's competency are lower (Nottelmann, 1987) and they spend less time on individual instruction meaning that children receive less verbal information about their competencies in the year after transition (Galton & Pell, 2002).

A third method of constructing competency is for children to evaluate themselves in relation to others, in a process of social comparison (Festinger, 1954). When surrounded by unfamiliar classmates, children seek to position themselves within an academic hierarchy by gathering competency related information about their peers. This can lead to increased social comparison after transition (Feldlaufer *et al.*, 1988) which has negative ramifications for engagement when high achievers loose their confidence in a group of matched ability peers (Chmielewski *et al.*, 2013) and when low achievers give up on working in order to gain popularity by being a 'deviant' child (e.g., Measor & Woods, 1984).

Need for enjoyment. Children enjoy school when they are interested and not bored, and when they experience fun and happiness (Gorard & Huat See, 2011). In terms of lesson enjoyment, children are initially engaged by subject specialist teachers who convey enthusiasm about their subject (Symonds *et al.*, 2011). However these new teachers are often stricter which diminishes children's lesson enjoyment if they are disciplined or cannot talk with their friends (Measor & Woods, 1984; Symonds, 2009). With subject specialism also comes an increase in work complexity. This is perhaps more pronounced in arts subjects where there are greater resources for learning than in post-transition schools. Typically, children report enjoying these subjects

more after transition (Symonds *et al.*, 2011). However, some studies document that teaching practices in core subjects for example English, mathematics and science, remain relatively constant over transition (Nash, 1973; Galton & Pell, 2002) which can disappoint children who look forward to a more complex learning experience (Hargreaves & Galton, 2002).

Another dampener of enjoyment is the 'start from scratch' approach issued by many teachers in the first term. This technique of reinforcing core subject knowledge aims to even out imbalances from pre-transition schools, and identify children's abilities independently of test results and pre-prepared work (Hargreaves & Galton, 2002). As such it advantages less experienced learners who enjoy acquiring new skills at a comfortable pace. However, more advanced learners can feel frustrated by this slow start to the year, and become temporarily disinterested in learning as a result (Symonds *et al.*, 2011).

Need for identity development. Identity development is influenced both by external conditions and by children who are 'active, constructing agents' (Osborn *et al.*, 2006, p. 419). UK transition ethnographies and sociological case studies describe this process in detail, often focusing on gender differences (see Measor & Woods, 1984; Jackson & Warin, 2000; Osborn *et al.*, 2006; Noyes, 2006). In comparison, there is scant use of psychological frameworks or constructs (see Marcia, 1980) to investigate identity development at school transition. Below, we list some of the ways in which altered relationships with peers and teachers at transition can influence children's identities.

The move to a larger peer group has several consequences for children's identity development that come about mainly through the process of 'friendship matching' (Symonds, 2009). Pre-transition school year groups are small, meaning that children have a limited supply of friendship candidates. This supply is further restricted by children's tendency to befriend their own gender. The larger peer group at post-transition schools provides children with a bigger pool of potential friends (Weller, 2007) and this facilitates identity development in several ways. First, having friends with similar interests encourages those interests, for example when new girls share and consolidate their love of pop singing (Symonds *et al.*, 2011). Second, making new friends can introduce children to activities, such as listening to classical music. Much of this identity exploration and commitment occurs at the discursive level, as children discuss their interests and activities in relation to their possible selves (Symonds, 2009). Third, children's identities are influenced by social cliques and hierarchies (see Kvalsund, 2000). In these, children practice interaction skills and test out social roles, e.g., that of 'supportive friend' or 'deviant teenager' (Measor & Woods, 1984). Children often ascribe a rank to these groups in the playground, and construct their social status in relation to this hierarchy (i.e., 'I'm a popular child') (Symonds, 2009).

New teachers and work can also stimulate identity development. In Symonds *et al.* (2011), the enthusiasm of some subject specialists rubbed off on children who soon wanted a career in music. These teachers also became career role models. At secondary school, the change to more complex musical theory, more advanced musical equipment and instrumental lessons inspired many children to begin composing at home. These changes also facilitated children's aspirations to become professional musicians. However, children felt less positively about their musical identities when

they were unable to complete new tasks, were rejected from musical extracurricular activities and were prevented from working at their preferred level by their teachers' start from scratch approach. In these cases, children became less interested in music and in being musical people. Some of these findings may be extrapolated to other subjects, such as English, domestic science and physical education (Symonds, 2009), where children are observed to develop career and personal identities in interaction with their new teachers and the work set.

Psychological development at transition

Next we overview the development of children's emotional engagement, academic self-concept, anxiety and depression at transition. As most of this literature is quantitative, we are able to identify and discuss trends (or a lack thereof) occurring across era and place.

School emotional engagement. Children's feelings about school and subjects tend to decrease across school transition. These feelings are defined as their emotional engagement (Fredricks *et al.*, 2004): a construct which comprises a range of feelings including like, dislike, enjoyment, boredom, value, usefulness and interestingness. Other types of engagement outlined by these authors are cognitive engagement (i.e., how invested children are in their learning) and behavioural engagement (i.e., the physical effort that children put into their school experience). Although a review of cognitive engagement at transition would be interesting, very few measurements in the transition literature outside of intrinsic motivation reflect this concept. A more thorough analysis can be made of studies of emotional engagement, which have existed internationally for over 30 years.

Measurements position emotional engagement as an overarching value such as 'I like school a lot', as a set of domain specific perceptions for example regarding teachers, lessons and school peers, or as children's 'instrumental' attitudes (or 'task value') about the importance, interestingness and usefulness of school (see Wigfield & Eccles, 1994). All measurement types find declines in children's enjoyment of school following transition (cf. Hirsch & Rapkin, 1987; Wigfield & Eccles, 1994; Schneider *et al.*, 2008). Some declines appear to be temporarily stalled by a honeymoon period (where children see their new school through rose coloured glasses: Hargreaves, 1984), for example in enjoyment of English (Galton *et al.*, 2003). However engagement in other subjects declines steeply, particularly secondary school science (Galton *et al.*, 2003).

In an attempt to understand declines in overall engagement, Symonds and Hargreaves (under review) identified which school and adolescent factors, and interactions of these, were central to children's emotional engagement in a qualitative investigation of stage–environment fit. Children gave common and distinct rationales for their instrumental engagement, overall engagement and disengagement. Most children thought school was an important gateway to their future careers and were engaged when they experienced relatedness with friends and enjoyed their lessons. In comparison, children's disengagement was influenced by conflict with teachers and peers and by autonomy restriction. Similarly, other studies find quantitative associations

between emotional engagement and autonomy (MacIver *et al.*, 1986; Skinner *et al.*, 2008), teacher support (i.e., relatedness) (Midgley *et al.*, 1989) and competence (Skinner *et al.*, 2008), post-transition.

Of these person–environment interactions, the association between autonomy and emotional engagement often varies between children. Those in Deakin Crick *et al.* (2010) reported mixed reactions to their new school's program designed to increase their learning independence. Some children enjoyed the challenge whilst others felt nervous and wanted teachers to tell them what to do. Similarly, MacIver *et al.* (1986) identified clusters of children who desired different levels of autonomy across transition. Although desire for autonomy is commonly thought to increase in early adolescence, these studies show this is not always the case. Rather, they indicate that a range of person–environment fits can occur in the same domain, signifying the need for more person-centred research in order to understand engagement development.

Academic self-concept. Children's evaluations of their scholastic competencies are found to increase and decrease on average at transition, perhaps in relation to the types of schools they change into. These evaluations are often referred to in quantitative research as the 'academic self-concept' or 'scholastic competence' (Harter, 1982) and can be measured as global perceptions or in reference to individual subjects (i.e., Wigfield & Eccles, 1994). Studies of scholastic competence (Harter, 1985) have observed average increases (Fenzel, 2000), stability (Proctor & Choi, 1994) and decreases (Cantin & Boivin, 2004) across the Grade 6 to Grade 7 transition between schools. Similar measures of academic self-concept have also found positive (Galton *et al.*, 2003) and negative growth (Zanobini & Usai, 2002). A related concept, academic self-efficacy, has also been observed to improve (Seidman *et al.*, 1994) and worsen (Friedel *et al.*, 2010). Even studies of two samples of children, transferring to two different schools, find polarized trajectories in the same measurement of academic self-concept (Jennings & Hargreaves, 1981). What these studies concur is that at transition, many children's academic self-concepts are likely to change.

This variation in academic self-concept across studies appears unrelated to sample size, ethnicity or socioeconomic status. For example, increasing trajectories occur for ethnic minority and Caucasian children with high SES (Fenzel, 2000) mixed SES (Galton *et al.*, 2003) and low SES (Seidman *et al.*, 1994). Similarly, decreasing trajectories occur in samples of mixed SES and ethnicity (Zanobini & Usai, 2002; Cantin & Boivin, 2004; Friedel *et al.*, 2010). One explanation for these divergences is that small numbers of children in each sample are tipping the scales towards a positive or negative growth pattern, as discussed in our section on self-esteem. A second explanation is that academic self-concept trajectories are tied to individual school environments. Here we have some supporting evidence from a British study. Youngman and Lunzer (1977) examined trends in academic self-concept at transfer to six schools mixed in locale and size. They found six distinct trajectories, each with a different intercept and pattern. These were unrelated to SES, urban and rural locale or gender.

So how might changes in school environment influence the academic self-concept? As discussed, the competency related information children receive from teachers and peers differs after transition, creating a period of self-concept instability (Harter *et al.*, 1992) and reconstruction (Doddington *et al.*, 1999). As Gniewosz *et al.* (2011)

found, post-transition grades had less influence on children's academic self-concepts than did more stable sources of information, in this case maternal competence perceptions. This finding points to the importance of familiarity with teachers and peers for effecting the provision of competency related information and therefore the academic self-concept.

Second, children's construction of their academic self-concept can be influenced by their experiences of autonomy, enjoyment and identity development. Operating both alone (cf. MacIver *et al.*, 1986, regarding autonomy) and as a process, these factors can encourage children's motivation to learn (Eccles *et al.*, 1983) which is closely connected to changes in the academic self-concept at transition (Harter *et al.*, 1992). For example, when children receive their desired amount of autonomy in class, believe that a lesson usefully contributes to their career development and enjoy their learning experiences, they may put more effort into learning which rewards them with positive competency related information. The variation in academic self-concept across studies may in part be explained by these individual person–environment fits.

Self-esteem. School transition offers many opportunities for children to re-evaluate their skills and personalities, as discussed. Researchers have long been interested in whether this cognitive 'shakeup' influences children's overall evaluation of their self, i.e., their self-esteem. Generally we observe that self-esteem can develop either way on average, as there are few person-centred studies that give us more detailed information about samples. Transition studies mostly use one of two strongly related (Hagborg, 2006) measures: the Rosenberg Self-Esteem Scale (Rosenberg, 1965) and the self-worth subscale of Harter's Self-Perception Profile for Children (Harter, 1985). The scales' items focus on global evaluations of the self-concept, for example 'I am happy the way I am' (Harter) and 'on the whole, I am satisfied with myself' (Rosenberg). Although there is research on self-image at transition (see Galton *et al.*, 2002) this is not directly comparable as it addresses physical, cognitive and social domains, rather than global self-evaluation.

Studies of the Grades 5 or 6 transition to middle or junior high school tend to find general increases in self-esteem across this period (Simmons *et al.*, 1979; Hirsch & Rapkin, 1987; Nottelmann, 1987; Proctor & Choi, 1994; Fenzel, 2000; Barber & Olsen, 2004; Newman *et al.*, 2011), supporting the idea that self-esteem increases gradually throughout early adolescence, uninterrupted by school transition. However, three studies using the self-worth subscale find the alternative pattern (Wigfield & Eccles, 1994; Seidman *et al.*, 1994; Cantin & Boivin, 2004). Both sets of studies have samples varied in size, ethnicity and socioeconomic status, therefore these group differences do not necessarily predict self-esteem development. For studies with available data, we computed the effect size of the self-esteem slope. In all cases, effects were fairly small, ranging between –0.17 (Cantin & Boivin, 2004) and 0.23 (Hirsch & Rapkin, 1987). Person-centred research identifies that even in samples with declining self-esteem on average, that most children have stable self-esteem (Eccles *et al.*, 1997), suggesting that the observed trends for average increases or decreases are influenced by small numbers of children on either side. This finding calls for more person-centred research of outlier groups to understand average self-esteem changes at transition.

Many studies find that self-esteem is lower for girls (see Wigfield & Eccles, 1994) and declines more (see Cantin & Boivin, 2004), in comparison to boys. A pattern repeated across studies of transition and non-transition groups is that only girls who transfer schools have declines in self-esteem (Simmons *et al.*, 1979; Symonds *et al.*, in press). These declines are augmented by cumulative life transitions, i.e., if girls have experienced one or more of the following: school transition, menarche, dating, geographic mobility and family disruption (Simmons & Blyth, 1987). Mechanisms for these gender differences include girls' tendency to base their self-esteem more on physical appearance (Lord *et al.*, 1994) and social relationships (Nottelmann, 1987) at transition than do boys. We explain more about these associations in our section on gender.

Although friendships may matter more for girls' self-esteem, they impact the self-esteem development of both genders when measured as peer hassles, negative peer values (Seidman *et al.*, 1994), peer relationships (Fenzel, 2000) and friendship quality (Newman *et al.*, 2011). Children's self-esteem also increases when relatedness with their teachers grows (Barber & Olsen, 2004). Changes in school environment that impact feelings of comfort and safety can influence children's self-esteem, specifically educational pressure (Seidman *et al.*, 1994) and school anti-social behaviour identified as the need to prevent drug use and stealing (Barber & Olsen, 2004). However as may be expected, self-esteem development associates more closely with psychological changes at transition, especially in the physical, scholastic and social aspects of the self-concept (Nottelmann, 1987; Lord *et al.*, 1994). In both genders, being a higher achiever is associated with higher self-esteem (Hirsch & Rapkin, 1987; Wigfield & Eccles 1994) and this is particularly important for boys (Nottelmann, 1987; Lord *et al.*, 1994), suggesting a link between academic self-concept and self-esteem change. In summary, our review of these correlates suggests that feeling safe, relationally secure and personally confident are important to self-esteem change at transition.

Anxiety. There are two types of anxiety most often examined in transition research. The first regards children's fears about their new school, and we refer to this as 'transition anxiety'. The second is generalised anxiety disorder, one of six types of anxiety identified by the American Psychological Association. An underlying mechanism for anxiety issues is the perception of threat which triggers a chemical surge known as the 'flight or fight' response. Here, the hormone cortisol is released to mobilise energy stores (Romeo, 2010) which helps us overcome practical dangers such as aggressive predators. When people move to a new environment they typically look for signals of safety and danger in a normative process of adjustment (Casey *et al.*, 2011, p. 19). Accordingly, many children report perceiving social, emotional and physical threats in their new schools. These include stricter teachers, bullying, older children, getting lost and harder work (Gray *et al.*, 2011). Unsurprisingly, before transition many children feel scared (Shachar *et al.*, 2002), worried, nervous (Howard & Johnson, 2000) and sad (Cox *et al.*, 2005). However many also channel their anxiety into eager anticipation (Rudduck, 1996) for better resources for learning and greater social opportunities. Accordingly, individual patterns of change in transition anxiety are noted, with some children experiencing increases and others declines (Youngman &

Lunzer, 1977). However the general picture is that children quickly lose their transition anxiety after they move (Galton & Wilcocks, 1983) and the majority of children feel comfortable in their new schools within a few weeks (Graham & Hill, 2003; Evangelou *et al.*, 2008). Children's generalised anxiety also typically declines after transition (Lohaus *et al.*, 2004) and some studies find gender differences with boys' anxiety declining but girls' being higher and stable (Hirsch & Rapkin, 1987). Longitudinal studies find that children's generalised anxiety is highest at age 10 to 12 years before a decline until mid-adolescence (Hale *et al.*, 2008; Van Oort *et al.*, 2009), which, if a developmental trend, may influence children's anxiety adaptation at transition.

The interaction between school environment and children's desire for safety is a common motivator of anxiety. Highly stressed children report feeling anxious when they are confused by their new school environment (Karagiannopoulou, 1999) and many children fear getting lost (Gray *et al.*, 2011). Children's transition anxiety also relates to worries about academic performance and relationships with teachers (Duchesne *et al.*, 2009). Several studies also demonstrate that children are less anxious when the environmental differences between schools are small. This finding occurs for school size (Cotterell, 1992), curriculum (Simon & Ward, 1982) and academic demands (Galton & Wilcocks, 1983). Essentially, any aspect of school environment that children perceive to be a threat, before or after transition, can influence their transition and generalised anxiety. A detailed study of why children hold particular fears at transition, that considers developmental, cognitive and social influences, may reveal much about why some children are more anxious at transition than others.

Depression. Children's depression manifests as feelings of sadness, uneasiness and the loss of pleasure (Goodyer, 2008). Accompanying this mood alteration, children may have more negative thoughts, less energy, disinterest in eating and sleep disruption. At transition, depression has been measured as a subscale of the Brief Symptom Inventory (by Hirsch & Rapkin, 1987), and with Kovacs' Children's Depression Inventory (Rudolph *et al.*, 2001; Barber & Olsen, 2004; Little & Garber, 2004). Similar to the trends in generalised anxiety disorder outlined above, Hirsch and Rapkin (1987) found that depressive symptoms increased for girls and decreased for boys, at transition to junior high school in Grade 7. Across genders, depression decreased at the Grade 5 (Newman *et al.*, 2011) and 6 (Rudolph *et al.*, 2001; Barber & Olsen, 2004) transition to middle school, but increased at transition to high school in Grades 8 (Little & Garber, 2004), and 9 (Barber & Olsen, 2004). These studies find that changes in depressive symptoms at the younger transition are associated with changes in work pressure and in children's academic competency (Rudolph *et al.*, 2001; Little & Garber, 2004). However, when evaluated against other factors, teacher support is the strongest predictor of change in depression (Barber & Olsen, 2004). Even though it is unmeasured by these studies, relatedness with peers may have a similar influence on children's depression development. Although the available information is far from detailed, we can surmise that depression at transition is influenced by gender, the timing of transition, school type, and changes in social support and self-perceptions.

Individual differences: risk and protective factors

In this section we take a risk and resilience perspective (Rutter, 1985) on gender, family background and ethnicity differences that influence children's development at transition.

Gender. Although many gender differences occur when children change schools, only a few of these intensify as a function of school transition (Symonds *et al.*, in press). As mentioned, exposure to older peers with more teenage behaviours appears to encourage girls' self-consciousness about their developing bodies and sexuality. This may be because girls experience outwards signs of puberty earlier on average than do boys. Also, girls are more vulnerable to negative emotionality and cognitive rumination in adolescence (Martel, 2013) meaning that they may make physical and social comparisons with their new peers in a way that reflects poorly on themselves. Perhaps for this reason, girls' self-esteem is found to be lower and decline more often across transition than does boys'. Girls have a more sensitive stress response system than do boys, where they produce higher levels of cortisol in response to stressors (Gunnar *et al.*, 2009). These levels of cortisol associate with generalised and social anxiety whereas there is no association for boys (Scheifelbein & Susman, 2006). Given this, girls may also be more vulnerable to becoming anxious when they perceive threat in their new school environment.

In comparison, boys appear to be more at risk for disengaging from school and learning after transition (see Hirsch & Rapkin, 1987; Galton *et al.*, 2002; Roderick, 2003). More boys develop anti-learning behaviours in class (Hargreaves & Pell, 2002), such as fooling around to avoid working, or pretending to work. These behaviours can be integrated into their social 'fronts' which boys present to their peer group in order to identify themselves as 'conformist', 'deviant' or somewhere between the two personas (Measor & Woods, 1984). Deviant boys are observed to engage in power struggles with their new teachers, where they test their teachers' ability to impose autonomy restrictions in class (Benyon, 1985). The literature suggests several factors at play here. First, after transition, some boys actively seek to establish their position in the new male social order. In the unfamiliar peer group where intellectual and social abilities are initially unknown, the most salient markers of social status are aggression and physical prowess, which deviant boys display through active rejection of learning. Second, in comparison to girls, more boys appear distressed by long periods of sitting still and writing (Deakin Crick *et al.*, 2010) perhaps because they desire physical exercise and instant gratification in learning. Third, boys have more muddied perspectives of their academic abilities and aspirations than girls do across transition (Pietarinen, 2000), which may hinder them from actively developing themselves academically. All of these factors may disadvantage boys from engaging with work in their new schools.

Family background. A small but increasing number of studies concentrate on the role of parents and family processes at transition. Often they focus on parental 'support' or 'investment': terms used here to refer to any effort generated by parents towards helping their child cope with school transition. Supportive parenting

is generally assumed to act as a protective factor for successful adaptation (Jindal-Snape & Miller, 2008). This holds true across domains, as children with higher levels of parental support report lower depressive symptoms (Newman, 2007), higher self-esteem (Seidman *et al.*, 2003), more school bonding (Schneider, Tomada, Normand *et al.*, 2008), academic motivation (Schneider *et al.*, 2008; Frey *et al.*, 2009; Chen & Gregory, 2009) and achievement (Grolnick *et al.*, 2000; Rice, 2001).

In order to understand how parents can support children at transition, we apply Rutter's four part model of protective factors which mediate risk at key life turning points (1987). This model was first adapted to school transition research by Jindal-Snape and Miller (2008).

First, parents can alter how their child interacts with risk at transition. By teaching coping skills or passively modelling this information, parents can prepare their child to effectively manage risk. For example, Akos *et al.* (2005) advise parents to intervene by describing the behaviour they respect and by helping children plan how to control challenging situations at transition. Parents can also create a match between home and school cultures that assists children to accept the more academically demanding environment of secondary school (Chen & Gregory, 2009; Frey *et al.*, 2009). In the reverse, parents can increase their child's chance of negative adaptation by worrying them with concerns about the move (Smith *et al.*, 2008) and by transmitting anti-school values (Holcomb-McCoy, 2011).

Second, parents can decrease the number of risk factors at transition through their active involvement. Falbo *et al.* (2001) describe this process as how parents *monitor* their children's experiences, *evaluate* whether a factor is risky and *intervene* in the process of risk. For example, one set of parents may uncover that their child is being bullied. They monitor the situation through continued discussion, weigh up the options available to them for intervention then decide to telephone the school to address the issue. Parents can also reduce risk through physical means, i.e., by providing their child with the correct school equipment and uniform (O'Brien, 2005). Parents can even reduce risk across the board by carefully selecting a transition school, in the case where their default option is a state school with a history of anti-social students and poor quality teaching (O'Brien, 2005).

Third, parents can provide opportunities for positive development that may impact their child's experience of risk at transition. For example in Falbo *et al.* (2001), parents helped their children make pro-social friends in their new schools by enrolling them in local out-of-school activities such as church groups and music lessons, where these peers were abundant. Also in this category is helping children with homework, which scaffolds their understanding and influences their achievement (Grolnick *et al.*, 2000).

Fourth, parents can attempt to increase their child's self-esteem and efficacy which may help their child overcome negative transition experiences. Parents can actively influence self-esteem growth by for example praising their child's efforts. They can also passively encourage it by providing a stable and supportive family environment (Osborn *et al.*, 2006). In summary, parents who are sensitively involved with their child's social and academic lives can decrease their child's risk for negative adjustment at transition.

Ethnicity. In the UK and US, children who are ethnic minorities at transition are more at risk of experiencing achievement loss (Felner *et al.*, 1981; ILEA, 1986; Benner & Graham, 2009), lower achievement (Wampler *et al.*, 2002) and social difficulties (see Graham & Hill, 2003; Holcomb-McCoy, 2011) than other children. This pattern is fairly consistent across 30 years of transitions research. In the UK, transitions research has focused on South Asian children (referred to hereafter as 'Asians') whilst in the US it most often concerns African American and Hispanic children.

Several studies observe that African American children are disadvantaged when it comes to settling into their new schools, due to a disconnect between parents and school cultures (Holcomb-McCoy, 2011). For example, being African American at transition associates with poorer family functioning and fewer supportive adults in the family network, and this in turn accords with lower post-transition achievement (Wampler *et al.*, 2002). African American children are also found to receive less parental guidance about transition (Simmons & Blyth, 1987). Some studies show that these negative effects can be offset when parents are supportive and when there are positive role models in the African American community (Newman *et al.*, 2000; Roderick, 2003). However, even if parents are supportive, there is the chance that because they are of ethnic minority, African American children are stereotyped by their new teachers and receive less educational support (Roderick, 2003). Also they can be vulnerable to being bullied by ethnic majority peers in their new schools (Burchinal *et al.*, 2008).

In comparison, parents of UK Asian children are often highly invested in their children's school performance as they strive to improve their family's prospects after immigration. However, Asian children can struggle to adapt to the more academically demanding environment of secondary school when they speak English as a foreign or second language (ILEA, 1986; Graham & Hill, 2003). Also, the tendency of Asian parents to associate mainly within their own culture outside of school can restrict their children's access to local peers of other ethnicities who they could befriend at school (Graham & Hill, 2003). This can encourage Asian children to form same ethnicity cliques after transition, which leaves them open to victimization from ethnic majority gangs (Weller, 2007).

In addition to these external forces, ethnic minority children may be further disadvantaged after transition as their ethnicity becomes more salient to them and they develop identities that resonate with social disadvantage (French *et al.*, 2000; Holcomb-McCoy, 2011). This increased 'ethnic identity exploration' is shown to associate with increased academic worries and decreased school bonding (Benner & Graham, 2007), making these children more vulnerable to disengagement.

Discussion and conclusions

Empirical findings

After transition, children strive to fulfil their needs and develop their identities in an environment that is greatly different to their elementary or primary schools. This change in person–environment interactions is found to shape children's school perceptions and mental health in ways that are often moderated by their gender,

family background and ethnicity. In this section we summarise these findings and discuss their relevance for teachers and school psychologists.

First, children need to feel safe in their new schools. Although many fear becoming lost and victimised after transition, their worries about physical and emotional safety are often relieved in a few weeks. This quick adaptation makes for a decline in 'transition anxiety' that coincides with possible developmental decreases in generalised anxiety disorder. Practitioners can help relieve children's fears by letting them know before they change schools that most will quickly feel settled in. Also, practitioners can elicit children's transition myths and explain these to children, in a bid to interrupt their cycle of transmission which, for some myths, has persisted for decades (Delamont, 1989).

However, children who become victimised after transition report decreases in self-esteem and achievement, and increases in depressive symptoms. Therefore for some, a persistent loss of personal safety can create a negative developmental pathway. This situation is of particular relevance for ethnic minority children and boys who are vulnerable to physical victimization. Practitioners can help children by discussing what support is available in their new school if they are bullied, thereby creating a mental 'safety net' for children's worries and prospective reactions. Also it may be advisable to schedule anti-bullying programs in the first term post-transition, given that many children worry about bullying as they move schools. At the whole school level, perceiving danger in the school environment, indicated by the need to control drug use and stealing, is found to associate with declining self-esteem. This person–environment interaction deserves further attention, especially for youth transferring in disadvantaged contexts.

On a positive note, children who receive emotional support from teachers and peers report greater self-esteem and lower depressive symptoms. This is good news considering that peer support often increases after transition, but is worrying given that post-transition teachers are observed to give less emotional support. These links between emotional support and mental health may be more salient for girls, as they base their self-esteem more on relationships than do boys. Although it is not our role to recommend that post-transition teachers be emotionally supportive in general, it is clear that their investment in their pupils' emotional wellbeing may help develop a positive classroom climate in which children have more confidence to learn.

When teachers restrict children's freedom in learning after transition, this can also create negative developmental outcomes such as declining engagement. However, not all children desire more freedom to learn and some want to have their 'hands held' in the unfamiliar learning environment of the post-transition school (Deakin Crick *et al.*, 2010). This finding calls for more differentiation of learning freedom post-transition, and for teachers to make explicit to children where they have free choice in the curriculum and in every day learning activities. Before transition, it might be useful for some children to discuss their expectations for autonomy in 'the big school', and to evaluate these against the realities of moving to a fast paced and more academically demanding environment, in order to protect against educational disengagement when their initial expectations are unmet.

Children's competency reformations may be an unavoidable occurrence at school transition. This restructuring happens when children struggle to benchmark their

academic self-concepts in a classroom of unfamiliar peers. For some children, especially boys, re-establishing competency in the new peer group and internally may be a top priority when moving schools as this provides a basis for their self-esteem. Also, children's competencies are influenced by new information from post-transition teachers who may be less able than their pre-transition colleagues to evaluate their students' abilities. Schools can help teachers' appraisals by better transfer of achievement information and in some cases by baseline testing in the first term. However, this latter approach must be used with caution as children are often scared by these evaluations and by the threat of being placed in set ability groups later in the year (Galton & Wilcocks, 1983).

Finally, many children value school for its contribution to their future career. At the immediate level of person–environment interactions, children's identities and growing desire for independence become entangled in their lesson enjoyment when they relate what they are learning to their career ideas. Many schools offer a wide range of subjects at age 11 to 12 years, in order for children to gather experience before choosing what to specialise in. Although this curriculum is geared towards assisting children develop their career identities, many children do not see it this way and instead are demotivated by what they perceive of as irrelevant tuition. Psychologists and teachers need be aware that 11- and 12-year-old children are actively developing their career identities (Atherton *et al.*, 2009) therefore links between future career and learning should be emphasized even within a broad curriculum. In turn these actions may support children's engagement and valuing of school.

Future research directions

The findings from this review show clear links between children's basic needs, school environment and psychological development. However, very few studies examine this process directly. First, in order for PEI research to advance our understanding of school transition, more studies should link changes in school structure and climate to psychological development. One method is to consider the social and emotional aspects of school environment as rated by students and connect this to changes in psychology. However, this presents the problem of respondent bias whereby those who give lower ratings of environment may be predisposed to being more negative in general. What is needed is more studies that use objective environmental measurements such as numbers of teachers, school role size and systematic observations of teacher behaviour. Furthermore, studies might seek to investigate how school structural characteristics relate to school climate, e.g., how the number of teachers influences teacher emotional support, and to consider the interaction of these variables in more complex models of PEI.

Second, observed quantitative trends in psychological development may tell us very little considering that their effect sizes are often small. As discussed in our sections on academic self-concept and self-esteem, these trends can mask individual variation where children have a range of developmental responses according to their personal and environmental differences. One way to counteract this issue is to use person-centred analysis. Self-esteem studies have already shown that although there is much stability across transition, there are significant minorities of children for whom

self-esteem declines and increases (Eccles *et al.*, 1997; Seidman & French, 2004). Studies of general post-transition adaptation also find that children can be classified into different groups who vary in their overall mental health and school success (Youngman, 1978; Roeser *et al.*, 1998). More research of this type is necessary in order to understand why transition is a positive experience for some children and why it sets others on negative developmental pathways.

Third, there is virtually no school transition research that investigates children's psychological development at the immediate level of every day experience. Although the ORACLE studies record teacher and pupil behaviour at 30-second intervals, these data are summarised across children to give a bigger picture of trends in adaptation and pedagogic and learning profiles. Also, despite observing children's daily school lives, ethnographic studies generally interpret these data using sociological frameworks rather than psychological models of development. In order to advance our understanding of how school transition influences psychological changes, there should be studies of the cognition of person–environment interactions. Such studies could ask how children assimilate, accommodate and interpolate with specific environmental changes at transition, and relate their findings to children's personal and background characteristics. This method could be particularly useful for understanding self-esteem change and academic self-concept development at the individual level.

Finally, by using a dynamic systems perspective, studies may advance prior research on PEI and stage–environment fit at school transition. So far, studies have used three dimensional models of how changes in environment (E) interact with children's needs (psychology A) to influence psychological development in other areas (psychology B). However, these models do not investigate how psychology develops in relation to its past self (e.g., E + prior A = future A) or how one type of PEI influences other PEIs (e.g., E + A = B, E + B = C). Essentially what is lacking are *transactional* models of development, where interactions cascade across time within a dynamic self-construct. Eccles' task expectancy model (1983) is a good example of how motivations form in relation to environment and other psychology and could provide a useful reference point for building PEI models with different 'outcomes' such as self-esteem. However first we need to clarify how particular aspects of school environment and self-construct interact with each other which calls for a review of three dimensional models and further empirical research.

Acknowledgements

This review was inspired by the Nuffield Foundation who provided the original funding for a study of transition and adolescent psychology for the Changing Adolescence project. Thanks also to Dr Linda Hargreaves who motivated and provided valuable feedback on this recent manuscript.

References

Akos, P., Queen, J.A. & Lineberry, C. (2005) *Promoting a successful transition to middle school* (NY, Eye on Education, Larchmont).

Atherton, G., Cymbir, E., Roberts, K., Page, L. & Remedios, R. (2009) How young people formulate their views about the future: exploratory research: Department for Children, Schools and Families, Research Report DCSF-RR152.

Barber, B.K. & Olsen, J.A. (2004) Assessing the transitions to middle and high school, *Journal of Adolescent Research*, 19(1), 3–30.

Benner, A.D. & Graham, S. (2007) Navigating the transition to multi-ethnic urban high schools: Changing ethnic congruence and adolescents' school-related affect, *Journal of Research on Adolescence*, 17(1), 207–220.

Benner, A.D. & Graham, S. (2009) The transition to high school as a developmental process among multiethnic urban youth, *Child Development*, 80(2), 356–376.

Benyon, J. (1985) *Initial encounters in the secondary school: Sussing, typing and coding* (Lewes, Falmer Press).

Berndt, T.J. & Mekos, D. (1995) Adolescents' perceptions of the stressful and desirable aspects of the transition to junior high school, *Journal of Research on Adolescence*, 10(1), 141–158.

Blyth, D.A., Simmons, R.G. & Bush, D.M. (1978) The transition into early adolescence: A longitudinal comparison of youth in two educational contexts, *Sociology of Education*, 51 (July), 149–162.

Brown, J.M. & Armstrong, R. (1982) The structure of pupils' worries during transition from junior to secondary school, *British Educational Research Journal*, 8(2), 123–131.

Burchinal, M.R., Roberts, J.E. & Zeisel, S.A. (2008) Social risk and protective factors for African American children's academic achievement and adjustment during the transition to middle school, *Developmental Psychology*, 44(1), 286–292.

Buss, D. (1987) Selection, evocation, and manipulation, *Journal of Personality and Social Psychology*, 53(6), 1214–1221.

Cantin, S. & Boivin, M. (2004) Change and stability in children's social network and self-perceptions during transition from elementary to junior high school, *International Journal of Behavioral Development*, 28(6), 561–570.

Casey, B., Ruberry, E.J., Libby, V., Glatt, C.E., Hare, T., Soliman, F., *et al.* (2011) Transitional and translational studies of risk for anxiety, *NIH Public Access*, 28(1), 18–28.

Chen, W.B. & Gregory, A. (2009) Parental involvement as a protective factor during the transition to high school, *Journal of Educational Research*, 103(1), 53–62.

Chmielewski, A.K., Dumont, H. & Trautwein, U. (2013) Tracking effects depend on tracking type: an international comparison of students' mathematics self-concept, *American Educational Research Journal*, 50(5), 925–957.

Cotterell, J.L. (1992) School size as a factor in adolescents' adjustment to the transition to secondary school, *The Journal of Early Adolescence*, 12(1), 28–45.

Cox, S., Kennedy, S., Bishop, F. & Porteners, S. (2005) *A study of students' transition from primary to secondary schooling: a work in progress* (Ministry of Education, Wellington).

Crockett, L.J., Petersen, A.C., Graber, J.A., Schuleners, J.E. & Ebata, A. (1989) School transitions and adjustments during early adolescence, *Journal of Early Adolescence*, 9(3), 181–210.

Deakin Crick, R., Jelfs, H., Symonds, J., Ren, K., Patton, A. & Grushka, K. (2010) *Learning futures evaluation report* (Bristol, University of Bristol for the Paul Hamlyn Foundation).

Delamont, S. (1989) The nun in the toilet: Urban legends and educational research, *Qualitative Studies in Education*, 2(3), 191–202.

Delamont, S. & Galton, M. (1986) *Inside the secondary classroom* (London, Routledge and Kegan Paul).

Doddington, C., Flutter, J. & Rudduck, J. (1999) Exploring and explaining 'dips' in motivation and performance in primary and secondary schools, *Research in Education*, 61(May), 29–38.

Duchesne, S., Ratelle, C.F., Poitras, S.C. & Drouin, E. (2009) Early adolescent attachment to parents, emotional problems, and teacher–academic worries about the middle school transition, *Journal of Early Adolescence*, 29(5), 743–766.

Eccles, J. S. (1986) Early adolescent development and person-environment fit: An overview, paper presented at the *Annual Meeting of the American Educational Research Association*, San Francisco, April 16–20.

Eccles, J.S. (1999) The development of children ages 6 to 14, *The Future of Children WHEN SCHOOL IS OUT*, 9(2), 30–44.

Eccles (Parsons), J., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M. & Meece, J. L. *et al.* (1983) Expectancies, values and academic behaviour, in: J. T. Spence (Ed.) *Achievement and achievement motivation* (San Francisco, W. H. Freeman), 75–146.

Eccles, J. S., Lord, S. E., Roeser, R. W., Barber, B. L. & Hernandez Jozefowicz, D. M. (1997) The association of school transitions in early adolescence with developmental trajectories through high school, in: J. Schulenberg, J. I. Maggs, K. Hurrelmann (Eds) *Health risks and developmental transitions during adolescence* (New York, Cambridge University Press), 283–321.

Eccles, J.S., Wigfield, A., Midgley, C., Reuman, D., MacIver, D. & Feldlaufer, H. (1993) Negative effects of traditional middle schools on students' motivation, *The Elementary School Journal*, 93 (5), 553–574.

Erikson, E. (1968) *Identity, youth and crisis* (New York, Norton).

Evangelou, M., Taggart, B., Sylva, K., Melhuish, E., Sammons, P. & Siraj-Blatchford, I. (2008) *What makes a successful transition from primary to secondary school?* (London, Department of Education).

Falbo, T., Lein, L. & Amador, N.A. (2001) Parental involvement during the transition to high school, *Journal of Adolescent Research*, 16(5), 511–529.

Feldlaufer, H., Midgley, C. & Eccles, J.S. (1988) Student, teacher, and observer perceptions of the classroom before and after the transition to junior high school, *Journal of Early Adolescence*, 8 (2), 133–156.

Felner, R.D., Primavera, J. & Cauce, A.M. (1981) The impact of school transitions: A focus for preventative efforts, *American Journal of Community Psychology*, 9(4), 449–459.

Fenzel, M.L. (2000) Prospective study of changes in global self-worth and strain during the transition to middle school, *The Journal of Early Adolescence*, 20(1), 93–116.

Ferguson, P.D. & Fraser, B.J. (1998) Student gender, school size and changing perceptions of science learning environments during the transition from primary to secondary school, *Research in Science Education*, 28(4), 387–397.

Festinger, L. (1954) A theory of social comparison processes, *Human Relations*, 7(1), 117–140.

Fredricks, J.A., Blumenfeld, P.C. & Paris, A.H. (2004) School engagement: Potential of the concept, state of the evidence, *Review of Educational Research*, 74(1), 59–109.

French, S.E., Seidman, E., Allen, L. & Aber, J.L. (2000) Racial/ethnic identity, congruence with the social context, and the transition to high school, *Journal of Adolescent Research*, 15(5), 587–602.

Frey, A., Ruchkin, V., Martin, A. & Schwab-Stone, M. (2009) Adolescents in transition: school and family characteristics in the development of violent behaviors entering high school, *Child Psychiatry and Human Development*, 40(1), 1–13.

Friedel, J.M., Cortina, K.S., Turner, J.C. & Midgley, C. (2010) Changes in efficacy beliefs in mathematics across the transition to middle school: Examining the effects of perceived teacher and parent goal emphases, *Journal of Educational Psychology*, 102(1), 102–114.

Galton, M. & Wilcocks, J. (1983) *Moving from the primary classroom* (London, Routledge and Kegan Paul).

Galton, M., Comber, C. & Pell, T. (2002) The consequences of transfer for pupils: Attitudes and attainment, in: L. Hargreaves, M. Galton (Eds) *Transfer from the primary classroom, 20 years on* (London and New York, Routledge Falmer), 131–158.

Galton, M. & Pell, T. (2002) Teaching in the transfer schools, in: L. Hargreaves, M. Galton (Eds) *Transfer from the primary classroom, 20 years on* (London and New York, Routledge Falmer), 97–130.

Galton, M., Hargreaves, L. & Pell, T. (2003) Progress in the middle years of schooling: continuities and discontinuities at transfer. *Education 3–13*, 31(2), 9–19.

Gillison, F., Standage, M. & Skevington, S. (2008) Changes in quality of life and psychological need satisfaction following the transition to secondary school, *British Journal of Educational Psychology*, 78(1), 149–162.

Gniewosz, B., Eccles, J. & Noack, P. (2011) Secondary school transition and the use of different sources of information for the construction of the academic self-concept, *Social Development*, 21(3), 537–557.

Goodyer, I.M. (Ed.) (2008) Depression in Childhood and Adolescence: State-of-Science Review: D15. Government Office for Science.

Gorard, S. & Huat See, B. (2011) How can we enhance enjoyment of secondary school? The student view, *British Educational Research Journal*, 37(4), 671–690.

Graham, C. & Hill, M. (2003) *Negotiating the transition to secondary school. Spotlight 89* (Edinburgh, The SCRE Centre).

Gray, J., Galton, M., McLaughlin, C., Clarke, B. & Symonds, J. (2011) *The supportive school: Wellbeing and the young adolescent* (Newcastle-upon-Tyne, Cambridge Scholars Publishing).

Grolnick, W.S., Kurowski, C.O., Dunlap, K.G. & Hevey, C. (2000) Parental resources and the transition to junior high, *Journal of Research on Adolescence*, 10(4), 465–488.

Gunnar, M.R., Wewerka, S., Frenn, K., Long, J.D. & Griggs, C. (2009) Developmental changes in hypothalamus– pituitary–adrenal activity over the transition to adolescence: Normative changes and associations with puberty, *Development and Psychopathology*, 21(1), 69–85.

Hagborg, W.J. (2006) The Rosenberg Self-Esteem Scale and Harter's self-perception profile for adolescents: A concurrent validity study, *Psychology in the Schools*, 30(2), 132–136.

Hale, W.W. III, Raajmakers, Q., Murius, P., van Hoof, A. & Meeus, W. (2008) Developmental trajectories of adolescent anxiety disorder symptoms: A 5-year prospective community study, *Child and Adolescent Psychiatry*, 47(5), 557–565.

Hardy, C.L., Bukowski, W.M. & Sippola, L.K. (2002) Stability and change in peer relationships during the transition to middle-level school, *Journal of Early Adolescence*, 22(2), 117–142.

Hargreaves, D. J. (1984) *Improving secondary schools*(London, Inner London Education Authority).

Hargreaves, L. & Galton, M. (2002) *Transfer from the primary classroom: 20 years on* (London, Routledge Falmer).

Hargreaves, L. & Pell, T. (2002) Patterns of pupil behaviour in the transfer schools, in: L. Hargreaves, M. Galton (Eds) *Transfer from the primary classroom, 20 years on* (London and New York, Routledge Falmer), 159–184.

Hargreaves, L. & Wall, D. (2002) 'Getting used to each other', cross-phase liaison and induction, in: L. Hargreaves, M. Galton (Eds) *Transfer from the primary classroom: 20 years on* (London, Routledge Falmer), 28–53.

Harter, S. (1982) The perceived competence scale for children, *Child Development*, 53(1), 87–97.

Harter, S. (1985) *The self-perception profile for children*. Unpublished manuscript, University of Denver, Denver, CO.

Harter, S., Whitsell, N. R. & Kowalski, P. (1992) Individual differences in the effects of educational transitions on young adolescents' perceptions of competence and motivational orientation, *American Educational Research Journal*, 29(4), 777–808.

Hirsch, B. J. & Rapkin, B. D. (1987) The transition to junior high school: A longitudinal study of self-esteem, psychological symptomatology, school life, and social support, *Child Development*, 58(5), 1235–1243.

Holcomb-McCoy, C. (2011) A smoother transition for black teens, *Educational Leadership*, 68(7), 59–63.

Howard, S. & Johnson, B. (2000) *Programs for students in transition from primary to high school* (Sydney, The New South Wales Department of Community Services and the New South Wales Department of Education and Training).

ILEA (1986) *ILEA transfer project* (London, Inner London Education Authority).

Jackson, C. & Warin, J. (2000) The importance of gender as an aspect of identity at key transition points in compulsory education, *British Educational Research Journal*, 26(3), 375–391.

Jennings, K. & Hargreaves, D. J. (1981) Children's attitudes to secondary school transfer, *Educational Studies*, 7(1), 35–39.

Jindal-Snape, D. & Foggie, J. (2008) A holistic approach to primary–secondary transitions, *Improving Schools*, 11(5), 5–18.

Jindal-Snape, D. & Miller, D.J. (2008) A challenge of living? Understanding the psycho-social processes of the child during primary–secondary transition through resilience and self-esteem theories, *Education Psychology Review*, 20(3), 217–236.

Karagiannopoulou, E. (1999) Stress on transfer from primary to secondary school: The contributions of A-trait, life events and family functioning, *Psychology of Education Review*, 23(2), 27–32.

Kvalsund, R. (2000) The transition from primary to secondary level in smaller and larger rural schools in Norway: Comparing differences in context and social meaning, *International Journal of Educational Research*, 33(4), 401–424.

Little, S.A. & Garber, J. (2004) Interpersonal and achievement orientations and specific stressors predict depressive and aggressive symptoms, *Journal of Adolescent Research*, 19(1), 63–84.

Lohaus, A., Elben, C.E., Ball, J. & Klein-Hessling, J. (2004) School transition from elementary to secondary school: Changes in psychological adjustment, *Educational Psychology*, 24(2), 161–173.

Lord, S. E., Eccles, J. S. & McCarthy, K. A. (1994) Surviving the junior high school transition: Family processes and self perceptions as protective and risk factors. *Journal of Early Adolescence*, 14(2), 162–199.

MacIver, D., Klingel, D. M. & Reuman, D. A. (1986) Students' decision-making congruence in mathematics classrooms: A person–environment fit analysis, paper presented at the *Annual Meeting of the American Educational Research Association*, San Francisco, April 16–20.

Magnusson, D. & Stattin, H. (2006) The person in context: A holistic–interactionistic approach, in: W. Damon, R. M. Lerner (Eds) *Handbook of child psychology, Vol. 1: Theoretical models of human development, 6th education* (New Jersey, John Wiley & Sons), 400–464.

Marcia, J. E. (1980) Identity in adolescence, in: J. Adelson (Ed.) *Handbook of adolescent psychology* (New York, Wiley), 159–187.

Markus, H. & Wurf, E. (1987) The dynamic self-concept: A social psychological perspective, *Annual Review of Psychology*, 38(February), 299–337.

Martel, M. (2013) Sexual selection and sex differences in the prevalence of childhood externalizing and adolescent internalizing disorders, *Psychological Bulletin*, April 19.

Measor, L. & Woods, P. (1984) *Changing schools* (Milton Keynes, Open University Press).

Midgley, C. (Ed.) (2002) *Goals, goal structure and patterns of adaptive learning* (Mahwah, NJ, Lawrence Erlbaum Associates).

Midgley, C. & Feldlaufer, H. (1987) Students' and teachers' decision-making fit before and after the transition to junior high school, *Journal of Early Adolescence*, 7(2), 225–241.

Midgley, C., Feldlaufer, H. & Eccles, J. S. (1989) Change in teacher efficacy and student self- and task-related beliefs in mathematics during the transition to junior high school, *Journal of Educational Psychology*, 81(2), 247–258.

Nash, R. (1973) *Classrooms observed, the teacher's perception and the pupil's performance* (London and Boston, Routledge and Kegan Paul).

Newman, B. M., Myers, M. C., Newman, P. R., Lohman, B. J. & Smith, V. L. (2000) The transition to high school for academically promising, urban, low-income African American youth, *Adolescence*, 35(137), 45–66.

Newman, B. M., Newman, P. R., Griffen, S., O'Connor, K. & Spas, J. (2007) The relationship of social support to depressive symptoms during the transition to high school, *Adolescence*, 42 (167), 441–459.

Newman Kingery, J., Erdley, C. A. & Marshall, K. C. (2011) Peer acceptance and friendship as predictors of early adolescents' adjustment across the middle school transition, *Merrill-Palmer Quarterly*, 57(3), 215–243.

Nisbet, J. D. & Entwistle, N. J. (1966) *The age of transfer to secondary education* (London, University of London Press).

Nottelmann, E. D. (1987) Competence and self-esteem during transition from childhood to adolescence, *Developmental Psychology*, 23(3), 441–450.

Noyes, A. (2006) School transfer and the diffraction of learning trajectories, *Research Papers in Education*, 21(1), 43–62.

O'Brien, M. (2005) Mothers as educational workers: Mothers' emotional work at their children's transfer to second-level education, *Irish Educational Studies*, 24(2), 223–242.

OFSTED. (2010) TellUs4 National Report: Research Report DCSF-RR218, National Foundation for Educational Research, Office for Standards in Education, Children's Services and Skills.

Osborn, M., McNess, E. & Pollard, A. (2006) Identity and transfer: A new focus for home-school knowledge exchange, *Educational Review*, 58(4), 415–433.

Pellegrini, A. D. & Long, J. D. (2002) A longitudinal study of bullying, dominance, and victimization during the transition from primary school through secondary school, *British Journal of Developmental Psychology*, 20(2), 259–280.

Piaget, J. (1972) *The principles of genetic epistemology* (London, Routledge an Kegan Paul).

Pietarinen, J. (2000) Transfer to and study at secondary school in Finnish school culture: Developing schools on the basis of pupils' experiences, *International Journal of Educational Research*, 33 (4), 383–400.

Proctor, T. & Choi, H. S. (1994) Effects of transition from elementary school to junior high school on early adolescents' self-esteem and perceived competence, *Psychology in the Schools*, 31(4), 319–327.

Rice, J. K. (2001) Explaining the negative impact of the transition from middle to high school on student performance in mathematics and science, *Educational Administration Quarterly*, 37(3), 372–400.

Roderick, M. (2003) What's happening to the boys? *Early high school experiences and school outcomes among African American male adolescents in Chicago, Urban Education*, 38(5), 538–607.

Roeser, R.W., Eccles, J.S. & Sameroff, A.J. (1998) Academic and emotional functioning in early adolescence: Longitudinal relations, patterns, and prediction by experience in middle school, *Development and Psychopathology*, 10(2), 321–352.

Romeo, R. D. (2010) Adolescence: A central event in shaping stress reactivity, *Developmental Psychobiology*, 52(3), 244–253.

Rosenberg, M. (1965) *Society and the adolescent self-image* (Princeton, NJ, Princeton University Press).

Ross, A. (2009) *Disengagement from education among 14—16-year-olds* (National Centre for Social Research, Department for Children, Schools and Families, Research Report No DCSF-RR178).

Rudduck, J. (1996) Going to 'the big school': The turbulence of transition, in: J. Rudduck, R. Chaplain, G. Wallace (Eds) *School improvement: What can pupils tell us?* (London, David Fulton Publishers), 19–28.

Rudolph, K.D., Lambert, S.F., Clark, A.G. & Kurlajowsky, K.D. (2001) Negotiating the transition to middle school: The role of self-regulatory processes, *Child Development*, 72(3), 929–946.

Rutter, M. (1985) Resilience in the face of adversity, *Protective factors and resistance to psychiatric disorder, British Journal of Psychiatry*, 147(6), 598–611.

Rutter, M. (1987) Psychological resilience and protective mechanisms, *American Journal of Orthopsychiatry*, 57(3), 316–331.

Ryan, R.M. & Deci, E.L. (2000) Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being, *American Psychologist*, 55(1), 68–78.

Schiefelbein, V.L. & Susman, E.J. (2006) Cortisol levels and longitudinal cortisol change as predictors of anxiety in adolescents, *The Journal of Early Adolescence*, 26(4), 397–413.

Schneider, B.H., Tomada, G., Normand, S., Tonci, E. & De Domini, P. (2008) Social support as a predictor of school bonding and academic motivation following the transition to Italian middle school, *Journal of Social and Personal Relationships*, 25(2), 287–310.

Seidman, E., LaRue, A., Lawrence, A.J., Mitchell, C. & Fienman, J. (1994) The impact of school transitions in early adolescence on the self-system and percieved social context of poor urban youth, *Child Development*, 65(2), 507–522.

Seidman, E., Lambert, L.E., LaRue, A. & Aber, J.L. (2003) Urban adolescents' transition to junior high school and protective family transactions, *The Journal of Early Adolescence*, 23(2), 166–193.

Seidman, E. & French, S.E. (2004) Developmental trajectories and ecological transitions: A two-step procedure to aid in the choice of prevention and promotion interventions, *Development and Psychopathology*, 16(4), 1141–1159.

Shachar, H., Suss, G. & Sharan, S. (2002) Students' concerns about the transition from elementary to junior high school: A comparison of two cities, *Research Papers in Education*, 17(1), 79–95.

Simmons, R. G. & Blyth, D. A. (1987) *Moving into adolescence: The impact of pubertal change and school context* (Vol. 2) (New Brunswick and London, Transaction Publishers).

Simmons, R. G., Blyth, D. A., Van Cleave, E. F. & Bush, D. M. (1979) Entry into early adolescence: The impact of school structure, puberty, and early dating on self-esteem, *American Sociological Review*, 44(6), 948–967.

Simon, A. & Ward, L. O. (1982) Anxiety, self-concept, attitude to school and transition to the comprehensive school, *Counsellor*, 3(5), 33–39.

Skinner, E., Marchand, G., Furrer, C. & Kindermann, T. (2008) Engagement and disaffection in the classroom: Part of a larger motivational dynamic? *Journal of Educational Psychology*, 100(4), 765–781.

Smith, J. S., Akos, P., Lim, S. & Wiley, S. (2008) Student and stakeholder perceptions of the transition to high school, *High School Journal*, 91(3), 32–42.

Suffolk Local Authority (1996) *A report on an investigation into what happens when pupils transfer into their next school at the ages of 9, 11 and 13* (Suffolk, Suffolk Education Department).

Suffolk Local Authority (2006) *School organisation review*. Report of the Policy Development Panel, Suffolk County Council.

Symonds, J. (2009) *Constructing stage–environment fit: Early adolescents' psychological development and their attitudes to school in English middle and secondary school environments*. Doctoral thesis, University of Cambridge, UK. Available online at: http://www.dspace.cam.ac.uk/handle/1810/223866 (accessed 23 April 2013).

Symonds, J., Galton, M. & Hargreaves, L. (In press) Emerging gender differences in times of multiple transitions, in: I. Schoon, J. Eccles (Eds) *Gender differences in aspirations and attainment* (London, Cambridge University Press).

Symonds, J. & Hargreaves, L. (Under review) Emotional engagement at school transition: A qualitative study of stage–environment fit.

Symonds, J., Long, M. & Hargreaves, J. (2011) *Changing key: Adolescents' views on their musical development across the primary to secondary school transition* (London, The Paul Hamlyn Foundation). Available online at: http://www.phf.org.uk/page.asp?id=1591 (accessed 20 December 2013).

Topping, K. (2011) Primary–secondary transition: Differences between teachers' and children's perceptions, *Improving Schools*, 14(3), 268–285.

Van Oort, F.V.A., Greaves-Lord, K., Verhulst, F.C., Ormel, J. & Huizink, A.C. (2009) The developmental course of anxiety symptoms during adolescence: The TRAILS study, *Journal of Child Psychology and Psychiatry*, 50(10), 1209–1217.

Wampler, R.S., Munsch, J. & Adams, M. (2002) Ethnic differences in grade trajectories during the transition to junior high, *Journal of School Psychology*, 40(3), 213–237.

Wargo Aikins, J., Bierman, K.L. & Parker, J.G. (2005) Navigating the transition to junior high school: The influence of pre-transition friendship and self-system characteristics, *Social Development*, 14(1), 42–59.

'Weller, S. (2007) 'Sticking with your mates?', *Children's friendship trajectories during the transition from primary to secondary school, Children and Society*, 21(5), 339–351.

Wigfield, A. & Eccles, J. (1994) Children's competence beliefs, achievement values, and general self-esteem: Change across elementary and middle school, *Journal of Early Adolescence*, 14(2), 107–138.

Youngman, L. & Lunzer, E. (1977) *Adjustment to secondary schooling* (Nottingham, School of Education, University of Nottingham).

Youngman, M. (1978) Six Reactions to School Transfer, *British Journal of Educational Psychology*, 48(4), 282–289.

Youngman, M. (Ed.) (1986) *Mid-schooling transfer: Problems and proposals* (Windsor, NFER–Nelson).

Zanobini, M. & Usai, C. (2002) Domain specific self-concept and achievement motivation in the transition from primary to low middle school, *Educational Psychology*, 22(2), 203–217.
Zeedyk, M.S., Gallagher, J., Henderson, M., Hope, G., Husband, B. & Lindsay, K. (2003) Negotiating the transition from primary to secondary school: Perceptions of pupils, parents and teachers, *School Psychology International*, 24(1), 67–79.