



Assessing pupil concerns about transition to secondary school

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Background. The primary–secondary transition can negatively affect pupils' emotional and psychological adjustment. However, methods for assessing concerns regarding secondary school are limited. A reliable and valid measure of transition-related concerns would be useful both in evaluating and shaping the content and delivery of universal and targeted transition support programmes.

Aims. To assess the validity of a quantitative self-report measure of school concerns as an assessment tool during the primary–secondary school transition.

Sample. A UK sample of 147 Year 6 primary school pupils and 263 Year 7 secondary school pupils.

Method. Self-reports of school concerns and school liking as well as self-reported and peer assessments on a range of psychological adjustment measures were collected.

Results. The School Concerns Questionnaire (SCQ) showed good reliability at primary and secondary school. Secondary concerns reduced significantly post-transition. Three factors emerged from an exploratory factor analysis of the SCQ and the pattern of results was replicated for post-transition concerns. Pupils with higher school concerns at secondary school reported reduced liking of school and reduced trust and respect for teachers. The SCQ was associated with generalized anxiety and female gender both pre- and post-transition. Peer problems and depression were associated with pre- and post-transition concerns, respectively.

Conclusions. The SCQ is a simple to complete, reliable, and valid tool for assessing primary–secondary transition concerns. It could serve a valuable role in the evaluation and development of universal and targeted school-based initiatives that aim to promote positive secondary transition.

Periods of transition are often stressful and as such can exert effects on psychological adjustment and wellbeing. Nonetheless, negotiating transition points effectively can set in motion chains of events that have positive effects on well-being over extended periods of time (Rutter, 1989). The majority of pupils in the UK educational system make a transition from primary school to secondary school at the age of 11 years.

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This is a period of transition that involves simultaneous changes in school environments, social interactions, and academic expectations (Anderson, Jacobs, Schramm, & Splittgerber, 2000). Adjusting to these changes between the primary and secondary school environments, as well as to the new institutional and social systems at secondary school, can be anxiety provoking and difficult to negotiate (Tobbell, 2003; Zeedyk *et al.*, 2003). A period of apprehension around the transition from primary to secondary school can be part of a normative response to change and may promote positive adaption to new environments (Lucey & Reay, 2000). For the majority of pupils, worries about transition appear to be relatively short lived and decline during the first term of secondary school (Murdoch, 1966; Stradling & MacNeil, 2000; Youngman & Lunzer, 1977).

Nevertheless, it is widely accepted that primary-secondary transition can negatively affect pupils' emotional and psychological adjustment and this is manifested with a range of school behaviours including poor attendance, lower grades, and behavioural problems (Anderson *et al.*, 2000; Galton, Morrison, & Pell, 2000; Harter, Whitesell, & Kowalski, 1992; Sirsch, 2003; Smith, Akos, Lim, & Wiley, 2008). Descriptive studies show that commonly reported worries during transition involve the new school environment (e.g., size of school, getting lost), travelling to and from school, being separated from current friends, homework, higher academic expectations, older pupils, and bullying (Brown & Armstrong, 1982; Lucey & Reay, 2000; Smith *et al.*, 2008; Zeedyk *et al.*, 2003). In a survey of Scottish pupils, Zeedyk *et al.* (2003) found that the most commonly endorsed concerns were; bullying, getting lost, an increased workload, peer relationships, and new environments and routines, with fears of bullying by far the most commonly reported concern. These frequently reported concerns therefore reflect the major institutional and social changes associated with the transition to secondary school and refer to changes in the organizational structure of the school environment as well as to changes in the social role and expectations of secondary school pupils.

There are individual differences in transition-related concerns and adjustment (e.g., Brown & Armstrong, 1982; Graham & Hill, 2003; Qualter, Whiteley, Hutchinson, & Pope, 2007; Vanlede, Little, & Card, 2006; Wigfield, Eccles, Mac Iver, Reuman, & Midgley, 1991) and some pupils may therefore be particularly vulnerable to school disengagement and adjustment problems during the transition to secondary school. Indeed, a number of demographic and personal characteristics have been identified as being associated with poor transition; with younger pupils and less academically able pupils being more likely to adjust poorly to new school regimes (Anderson *et al.*, 2000; Galton *et al.*, 2000). There is also a suggestion that girls may be more vulnerable to transition worries (Anderson *et al.*, 2000) although the literature is not entirely consistent (Seidman, Allen, Aber, Mitchell, & Feinman, 1994; Wigfield *et al.*, 1991).

Given such findings it is not surprising that a substantial majority of pupils who participated in a stratified UK national sample had received some formal support in preparing for the transition to secondary school (Evangelou *et al.*, 2008). The support included universal programmes developed to smooth transition for all pupils (e.g., induction days) and indicated or selected programmes targeted at vulnerable pupils (e.g., Wassell, Preston, & Jones, 2007). Developing programmes that promote a positive transition to secondary school is also important because a poor transition can set in motion a chain of events that can impact upon future adjustment and academic attainment. Pupils who do not adjust to the new challenges of secondary school are at risk of becoming de-motivated and potentially disengaged from school (e.g., Wassell *et al.*, 2007). This has substantial implications for a pupil's ability to fulfil their academic

and personal potential. Indeed, poorer transition at secondary school has been shown to impact deleteriously on pupils' adjustment (depression, self-esteem) and academic attainment beyond the school years (West, Sweeting, & Young, 2008).

Thus, research and intervention efforts focusing on the primary-secondary transition are warranted because (1) this transition period involves stresses and anxiety for all pupils, even those who adjust well to secondary school; (2) a poor transition is associated with concurrent psychological problems; and (3) a poor transition can set in motion chains of events that impact on future attainment and adjustment. Nevertheless, despite evidence suggesting the potential short and long-term benefits in promoting positive transition, important questions remain to be addressed. For example, it is still unclear which pupils are most likely to experience problems with transition. Indeed, there are still relatively few research studies that focus on the primary-secondary school transition period and the majority of studies to date have either focused on a single aspect of transition adjustment (e.g., academic attainment, self-esteem) rather than assessing pupil concerns or provided descriptive data from which generalization is limited.

In particular, it is unclear how transition affects pupils' wellbeing and which aspects of wellbeing are most affected. Thus, whilst evidence for a dip in academic attainment following transition is relatively consistent (Galton *et al.*, 2000; West *et al.*, 2008), the evidence relating to transition and wellbeing is mixed. For example, some studies report reductions in global self-esteem following transition (Wigfield *et al.*, 1991), a reduction only in girls (Blyth, Simmons, & Carlton-Ford, 1983) or no change (Hirsch & Rapkin, 1987). One area that has not been widely studied despite current concerns is the relationship between pupil antisocial behaviour and the primary-secondary transition. Again, the limited body of research is not consistent: Berndt and Mekos (1995) reported that although antisocial pupils were less concerned pre-transition, they adjusted less well post-transition compared to other pupils. In contrast, West *et al.* (2008) found that aggressive behaviour was associated with poorer adjustment to changes in the formal school environment following transition but a more positive adjustment to changes in the peer environment. Several studies describe a range of peer-related changes following the primary-secondary transition whereby peer values are perceived as more antisocial (Seidman *et al.*, 1994) and self-perceptions of social ability are reduced following transition (Wigfield *et al.*, 1991). However, having an older friend at secondary pre-transition has a positive influence on adjustment to the peer environment following transition (West *et al.*, 2008). These observations highlight the possibility that peer relationships may be important influences on pupil wellbeing around the primary-secondary transition. In summary, a number of studies report equivocal results regarding pupil wellbeing and the primary-secondary transition (Anderson *et al.*, 2000; Seidman *et al.*, 1994; West *et al.*, 2008; Wigfield *et al.*, 1991) and some aspects of wellbeing have not been well examined. These observations highlight the need for further research in this area.

Clear, empirically derived findings have the potential to improve effectiveness and to refine the content and delivery of interventions (Vitaro & Tremblay, 2008). Much UK research has relied on qualitative descriptors of school concerns about transition (e.g., Zeedyk *et al.*, 2003). Whilst this is useful for initial identification of pupils' transition-related school concerns, an important addition to the literature on transition to secondary school would be a reliable quantitative measure. In addition a valid and reliable quantitative measure of school concerns could provide information of practical utility to educational professionals involved in supporting pupils making the transition from primary to secondary school.

In the present study, we sought to evaluate the School Concerns Questionnaire (SCQ; Thomasson, Field, O'Donnell, & Woods, 2006) as such a measure. The characteristics of existing questionnaire measures of secondary school concerns are described in Appendix. Although a number of questionnaire measures of transition concerns have been used previously, a standardized quantitative measure is still lacking as the majority of previous studies have adopted different approaches: (1) focusing only on one aspect of school concerns, or (2) using open ended questionnaires which impose high literacy demands on pupils, or (3) designing items with face validity for a particular study on a one off basis. Furthermore, several assessments of school concerns have required pupils to report retrospectively on how they felt when they first started secondary school despite concerns about the reliability of retrospective reports, in particular, that rates of false negatives are increased in comparison to prospective measurement methods (Hardt & Rutter, 2004). Finally, most measures of secondary concerns have been used in a way that focuses on transition as an event occurring during the first term of secondary school. Whilst, this is clearly an important period for ensuring successful transitions, it has been highlighted in previous reviews (Anderson *et al.*, 2000), that transition to secondary school is likely to be a process of assimilation that extends over quite prolonged periods of time. This highlights the need for quantitative measures of secondary school concerns that can be used to prospectively track the development and change in concerns. As described in Appendix, the SCQ is a simple checklist of seventeen concerns which pupils are required to rate on a Likert scale. It is simple and straightforward to complete, focuses on assessing current concerns and can be used both at primary and secondary school.

The present study

The present study involved assessing pupils' transition concerns shortly before and after primary-secondary transition with the SCQ in order to evaluate this measure as an assessment tool for use with pupils during primary-secondary transition. The study had the following aims:

- (1) To assess the validity and reliability of the SCQ as an assessment tool for school concerns during primary-secondary transition. This was addressed in three ways. First, we examined the psychometric properties (reliability and factor structure) of the SCQ at primary school and at secondary school. Second, associations between the SCQ and widely used measures of adjustment were examined to assess discriminant validity. Thus, we predicted that the SCQ would be positively correlated with symptoms of internalized distress such as anxiety and also with peer relationship problems but should not be correlated with positive adjustment (e.g., prosocial behaviour, cooperative behaviour). Given the mixed findings on the relationship between conduct problems and transition outcomes, we did not have an *a priori* prediction about the direction of effects between externalizing symptoms and school concerns. Third, concurrent validity was assessed by examining relationships with attitude to school and teachers. We predicted that if the SCQ is a valid measure of school concerns, then post-transition it should be associated with more negative attitudes to school and teachers.
- (2) A second aim was to identify the aspects of psychological adjustment in the last term of primary school that were most strongly associated with concerns about secondary school at that time and compare those with the aspects of psychological

adjustment in the first term of secondary school that were most strongly associated with concerns about the current secondary school.

- (3) Finally, we assessed the continuity of school concerns post-transition in a small sample of pupils for whom repeated assessments of the SCQ pre- and post-transition were available.

Method

Participants

Pupils from six primary schools and two secondary schools in a county in south-central England participated. The study was conducted in two phases. Initially, during the summer term of 2007, Year 6 primary pupils from the six primary schools ($N = 147$; 69 boys, 78 girls) completed a battery of questionnaires relating to their feelings and behaviour during the months prior to transition. The average age of pupils was 10.84 years ($SD = 0.37$) and 76% of the sample lived with both their mother and father with the remainder living in single parent households or having shared custody arrangements. In the second phase, Year 7 secondary pupils ($N = 263$; 143 boys, 130 girls) completed the same measures in the autumn term of 2008. The average age of pupils was 11.25 years ($SD = 0.43$) and 75% lived with both parents. Longitudinal data were available for 57 pupils from the primary sample. This represents only 39% of the original primary sample because we only followed up pupils who went on to attend two secondary schools in the local area. These two secondary schools had been identified at the beginning of the study (i.e., we did not attempt to follow-up pupils attending other schools). However, pupils from the six primary schools in fact went on to attend 18 different secondary schools dispersed over a wide geographical area.

Information from school records indicated that the majority of the primary sample (84%) was from White British/Irish backgrounds, with the remainder from the following ethnic groups: 10% Indian, Pakistani, or other Asian background; 1% African or Caribbean; and 3% mixed race. The secondary sample was similar with 88% from White British/Irish backgrounds, 9% from Indian, Pakistani, Bangladeshi, or other Asian backgrounds and 2% mixed race. Eligibility for free school meals was collected as an index of socio-economic status (Hansard, 2007), and 6% of pupils were eligible at both primary and secondary school.

Procedure

The university ethics committee reviewed and approved the study protocol. Pupils completed a booklet of measures in classroom groups with the teacher and a researcher present. The peer nomination measure was completed first in which pupils were read a series of behavioural descriptions by a researcher. Pupils were provided in their booklets with a class list in register order for each description and were asked to tick the name of anyone in their class who matched the descriptions. Pupils could nominate as many or as few individuals as they wished. This approach to peer assessment permits, but does not require participants to make judgments, in particular, negative judgments about peers. It addresses the ethical concerns that are often raised about methods that require the use of negative nominations, particularly where children are concerned, although the consistent failure to find any evidence of negative effects should be noted (Mayeaux, Underwood, & Risser, 2007). In this study, recommended precautionary procedures were also followed, for example, administering the peer assessment early,

so that subsequent activities served as buffers, and stressing the need for confidentiality to participants. Following the peer assessment measures, pupils completed the remaining measures in the booklet at their own pace. Pupils received a cover-sheet to keep their answers private and a researcher was available to answer any queries.

Measures

In addition to the SCQ, measures of a range of adjustment strengths and difficulties were collected using self- and peer reports as follows. Measures were selected to cover a range of potentially important adjustment variables both that had been highlighted by previous research (internalizing problems, peer problems) as well as variables that had not been well assessed by previous research (externalizing problems). Assessments were selected on the basis of their prior use in UK community samples, evidence of reliability and validity, and additionally, to ensure that a range of constructs were assessed using multi-informant methods (peer and self-reports). There were five measures of internalizing symptoms: depression was assessed by the self-report Short Mood and Feelings Questionnaire (SMFQ); general and school anxiety were assessed by the relevant subscales of the self-report Screen for Child Anxiety and Related Emotional Disorders; emotional problems were assessed by the self-report emotional problems subscale of the Strengths and Difficulties Questionnaire (SDQ) and unhappiness was assessed by the Guess Who peer assessment measure. There were four measures of externalizing behaviours: conduct problems and hyperactivity were assessed by the relevant subscales of the self-report SDQ while disruptive and bullying behaviours were assessed by the Guess Who peer assessment measure. There were two measures of peer problems: the Peer Problems subscale of the SDQ and peer assessment of victimization on the Guess Who measure. Two measures of positive aspects of behaviour were also included: prosocial behaviour was assessed by the relevant subscale of the self-report SDQ and cooperative behaviour was assessed by the Guess Who peer assessment measure. Attitudes to school and teachers were assessed using the Liking for School and the Trust in and Respect for Teachers Scales.

SCQ (Thomasson *et al.*, 2006). This simple self-report measure lists 17 potential concerns about moving to secondary school (e.g., size of school, following a timetable, being bullied). Pupils are asked to rate their level of concern for each item on a 10-point Likert scale (0 not worried; 10 extremely worried). Pupils also had the opportunity to write down and rate up to two additional concerns if they wished (Cronbach's α primary = .906. Cronbach's α secondary = .916).

The SMFQ (Angold *et al.*, 1995). This contains 13 items, rated on a three-point scale measuring core symptoms of depression (e.g., 'I felt I was no good any more'). Cronbach's α primary = .831; secondary = .840.

The Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher *et al.*, 1999) consists of five subscales, two of which were used in the present study. Responses are rated on a three-point scale: 'Not true or hardly ever true', 'Somewhat true or sometimes true', 'Very true or often true'. The reliability of the nine items of the general anxiety subscale (e.g., 'I am a worrier') was Cronbach's α primary = .858; secondary = .855. The reliability of the four items of the school anxiety subscale (e.g., 'I am scared to go to school') was Cronbach's α primary = .606; secondary = .685.

The SDQ (Goodman, 1997) is a widely used and well-validated measure of adjustment and psychopathology. The self-report questionnaire for 11- to 16-year-olds consists of

5 scales (of 5 items each): emotional symptoms, conduct problems, hyperactivity, peer relationship problems, and prosocial behaviour. Pupils rate items as: 'Not True', 'Somewhat true', or 'Certainly true' for them. Subscale totals are the sum of the scores for the 5 items (0-10). Reliabilities, using Cronbach's alpha, were comparable to those reported by Goodman (2001), where values ranged between 0.41 and 0.81. In the present study, the Cronbach's alpha values were: emotional symptoms - primary = .72, secondary = .66; conduct problems - primary = .52, secondary = .50; hyperactivity - primary = .59, secondary = .67; peer relationship problems - primary = .36, secondary = .31; and prosocial behaviour - primary = .61, secondary = .59.

The Guess Who peer assessment measure used by Coie and Dodge (1988) was adapted, following Parkhurst and Asher (1992), to allow unrestricted nominations and use percentage scores. Pupils were asked to identify classmates who fitted the behavioural descriptors co-operates and disrupts, defined as follows: co-operates: 'This person is really good to have as part of your group because they are agreeable and co-operate. They join in, share and give everyone a turn'. Disrupts: 'This person has a way of upsetting everything when he or she gets in a group. They don't share and try to get everyone to do things their way'. In addition, the items 'bully' and 'bullying victim' developed by Nabuzoka and Smith (1993), were also included: bully: 'This person is a bully and often picks on other people or hits them or teases them or does other nasty things to them for no good reason'. Bullying victim: 'This person is often picked on or hit or teased or has nasty things done to them by other children for no good reason'. These four descriptors were analysed to show the proportion of classroom peers nominating each child as fitting each of the descriptors. Frederickson and Graham (1999) reported acceptable reliability and validity for scores on the Guess Who measure.

Attitudes to school and teachers were assessed using the *Liking for School* and the *Trust in and Respect for Teachers* Scales of the Child Development Project Student Questionnaire (Battistich, Solomon, Kim, Watson, & Schaps, 1995; Solomon, Battistich, Watson, Schaps, & Lewis, 2000). The Liking for School Scale consists of seven items (e.g., I like my school; I wish I could go to a different school). Items are rated on a five-point scale from 'Disagree a lot' (1) to 'Agree a lot' (5) The *Trust in and Respect for Teachers* scale consists of 10 items (e.g., the teachers here really care about me, the teachers here always keep their promises). Items are rated on a three-point scale: not at all true (1), sort of true (2), very true (3). The Cronbach's alpha values (Liking for School = .77 and Trust and Respect for Teachers .83) were very similar to the values (.80 and .84, respectively) reported by Solomon *et al.* (2000).

Analysis

Principal components analysis, Pearson correlations, and linear multivariate regression were used to examine school concerns in the primary and secondary school samples separately. For the principal components analysis, oblique rotation (oblimin) was used as the SCQ items were correlated. Eigen values over 1 were extracted and the scree plot was examined. Stepwise regression was used to identify those aspects of psychological adjustment most strongly associated with school concerns separately at primary and secondary school. Independent sample *t* tests were used to compare means between the primary and secondary samples and between boys and girls.

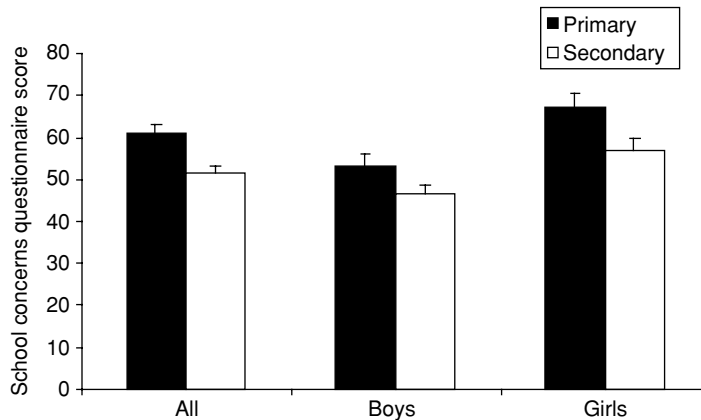


Figure 1. Pre- and post-transition school concerns.

Results

School concerns pre- and post-transition

The SCQ showed high reliability with Cronbach's alphas of greater than .90 in both samples. Descriptive data for the SCQ is shown in Figure 1. For the primary school sample, the mean reported school concerns score was 60.76 ($SD = 27.51$). Girls reported significantly more pre-transition concerns than boys (girls mean = 67.09, $SD = 28.87$; boys mean = 52.87, $SD = 23.65$; $t = -3.10$, $df = 135$, $p = .002$). Pre-transition school concerns were higher in younger pupils ($r = -.203$, $p = .02$).

For the secondary school sample, the mean school concern score was lower (mean = 51.33, $SD = 26.36$). Girls continued to have significantly more concerns than boys post-transition (girl mean = 56.95, $SD = 27.45$; boys mean = 46.42, $SD = 24.65$; $t = -3.19$, $df = 247$, $p = .002$). There was no linear relationship between age and school concerns in secondary school ($r = -.063$, $p = .322$). The primary and secondary SCQ means were significantly different ($t = 3.303$, $df = 384$, $p = .01$).

We next examined the types of concerns most commonly endorsed by primary and secondary pupils. In the primary school sample, the five most commonly endorsed concerns about secondary school were homework (mean = 5.2), being bullied (mean = 5.1), remembering equipment for school (mean = 4.4), size of the school (mean = 4.2), and changing classes (mean = 4.2). In the secondary school sample, the five most commonly endorsed concerns about secondary school post-transition were being bullied (mean = 4.9), homework (mean = 4.7), older children (mean = 4.4), remembering equipment for school (mean = 3.6), and being able to do the work (mean = 3.1).

Using this self-report questionnaire measure, transition concerns reduced in the first term of secondary school compared to the last term of primary school. Younger pupils reported greater transition concerns during Year 6 of primary school but not at secondary school. Broadly, the types of concerns most worrying for pupils were similar at primary and secondary schools, in particular, concerns about bullying and homework were high at both assessments. However, organizational concerns such as changing classes and the size of the school were only rated as highly concerning in the primary school sample.

Principal components analysis of school concerns measure

Table 1 shows the factor loadings following oblimin rotation. Factor loadings over .5 were considered informative. Three factors emerged at both time points. The first factor included items such as following a timetable, changing classes, size of the school, and remembering equipment. This factor accounted for over 40% of the variance in both samples. The second factor included concerns about break time and PE. This factor accounted for 8.2% of the variation at primary and 6.5% at secondary school. The third factor included items such as being bullied and older children. This factor accounted for 7.3% or the variance in the primary and 5.9% in the secondary sample.

Table 1. Exploratory factor analysis of SCQ

	Primary school			Secondary school		
	F1	F2	F3	F1	F2	F3
Making new friends	.529	.033	.006	.010	.132	.721
Following a timetable	.713	-.191	.192	.561	.227	.067
Changing classes	.602	.242	-.058	.655	-.144	.248
Remembering equipment	.747	-.100	.151	.859	.050	-.227
What to do if ill	.854	-.053	-.051	.552	.032	.165
Size of school	.537	.235	.089	.798	-.009	-.105
Number of teachers	.753	.191	-.192	.445	.246	.188
Toilets	.622	.145	.622	.517	.062	.126
Break time	-.083	.767	.152	.206	.723	.031
Getting to school	.307	.575	-.129	.551	.063	-.045
PE	.106	.731	.020	-.112	.509	.484
Homework	.347	-.127	.614	.655	-.144	.248
Older children	-.170	.383	.738	.545	-.143	.438
Being bullied	.107	-.030	.768	.344	-.147	.644
Lots of people	.373	.432	.060	.806	-.013	.041
Being able to do the work	.498	.041	.420	.337	.256	.404
Dinner time	.338	.379	.191	.158	.757	-.093
Proportion of variance	40.7	8.2	7.3	43.5	6.5	5.9
Kaiser Meyer Olkin (KMO)	.858			.920		

Note. Shaded areas indicate a change in factor loadings compared to the primary school results. Bold denotes factor loadings greater than or equal to 0.5.

Broadly speaking the pattern of results replicated across the two samples although there were some small differences. Specifically, in secondary, one item moved from factor 1 to factor 3 (making new friends). It could be that rather than reflecting organizational aspects of secondary school (tapped by factor 1), this item has a rather different meaning post-transition and instead reflect aspects of the social environment. There were also two items (homework and older children) which instead of loading on factor 3 as they did in primary, loaded in secondary on factor 1. Finally, two new loadings emerged in the secondary sample whereby the item 'lots of people' loaded on factor 1 and concerns about 'dinner time' loaded on factor 3. Overall, factor 1 appeared to tap 'new rules and expectations' of secondary school, Factor 2, 'social situations' in secondary school and factor 3, 'other pupils' in secondary school.

To summarize, the largest proportion of variance in concerns about secondary school was explained in both the primary and the secondary samples by items that appeared to

tap new rules and expectations of secondary school. Although accounting for a smaller proportion of variation, there were additional concerns relating to social situations and other pupils. The pattern of results broadly replicated pre- and post-transition. Some minor changes in factor loadings might be expected given that as pupils negotiate and adapt to changes in the school environment throughout their first year of secondary school, some of the items measured by the SCQ take on a different meaning.

Assessing concurrent validity of the SCQ: School concerns and attitudes to school post-transition

Concurrent validity of the SCQ would be evident if higher concerns at secondary school were associated with less positive attitudes to secondary school. Post-transition, girls reported greater liking for secondary school than boys ($t = -3.45$, $df = 236$, $p = .001$; boys mean = 11.93, $SD = 3.95$; girls mean = 13.37, $SD = 2.72$). Year 7 girls also reported greater trust in and respect for teachers than boys ($t = -2.60$, $df = 211$, $p = .01$; boys mean = 19.83, $SD = 5.04$; girls mean = 21.60, $SD = 4.89$). Higher levels of school concerns in secondary school were associated with lower liking of secondary school ($r = -.239$, $p = .001$) and with reduced trust and respect for teachers at secondary school ($r = -.140$, $p = .04$). The pattern of results was very similar for boys and girls.

Assessing discriminant validity of the SCQ: Correlations with other measures of psychological adjustment

Correlations between the SCQ and the other measures of psychological adjustment are shown in Table 2. Pre-transition concerns about secondary school were significantly associated with higher internalizing problems as assessed by all the measures of internalizing symptoms with the exception of peer-nominated unhappiness, which only

Table 2. Correlations between school concerns pre- and post-transition with a range of standardized measures of psychological adjustment

	Pre-transition school concerns	N	Post-transition school concerns	N
<i>Internalizing problems</i>				
Depressive symptoms (MFQ)	.414***	134	.477***	236
School anxiety (SCARED)	.357***	137	.339***	240
Generalized anxiety (SCARED)	.445***	136	.558***	240
Emotional problems (SDQ)	.437***	133	.443***	234
Unhappy (peer nominations)	.179 [†]	109	.157*	249
<i>Externalizing problems</i>				
Conduct problems (SDQ)	.181*	131	-.004	232
Hyperactivity (SDQ)	.068	134	.148*	221
Disrupts (peer nominations)	.036	109	-.023	249
Bully (peer nominations)	.040	109	-.128*	249
<i>Peer problems</i>				
Peer problems (SDQ)	.388***	130	.356***	222
Victim (peer nominations)	.141	109	.169**	249
<i>Prosocial behaviours</i>				
Prosocial behaviour (SDQ)	.011	134	.044	238
Cooperates (peer nominations)	-.163	109	-.037	249

[†] $p < .1$; * $p < .05$; ** $p < .01$; *** $p < .001$.

showed a trend in the predicted direction ($r = .179, p = .063$). Depressive symptoms, school anxiety, generalized anxiety, and the emotional problems scale of the SDQ all showed significant association with pre-transition school concerns. Peer problems were also showed significant correlation with school concerns ($r = .388, p = .001$) and there was a smaller positive association with conduct problems and school concerns ($r = .181, p = .039$).

At secondary school, a similar pattern of correlations was observed with internalizing problems being particularly associated with school concerns. Post-transition concerns were significantly associated with all the measures of internalizing problems (depression, general anxiety, school anxiety, emotional problems, and peer nominations of unhappiness at school). Peer problems were associated with school concerns as at primary school; however at secondary school, peer nominations of victimization were additionally associated with school concerns whereas they had not been at primary school. There was no significant association between self-reported conduct problems and school concerns. In fact, an inverse association was observed between a measure of externalizing behaviour - peer nominations of bullying and school concerns ($r = -.128, p = .044$), where those pupils reported to be bullies by their peers in secondary school reported fewer school concerns.

A general pattern that emerged at both primary and secondary school was that school concerns were particularly associated with internalizing problems and with peer problems. Moreover, as predicted, school concerns were not associated with positive aspects of adjustment. These observations provide preliminary evidence of the discriminant validity of the SCQ measure.

Multiple linear regression

For each sample, we next selected all those measures of adjustment showing significant association with the school concerns measure and entered them into a multiple regression with the school concerns score as the dependent variable. Gender was also included as an independent variable given the gender differences observed on school concerns. Stepwise regression was then used to identify a parsimonious model that included those variables showing strongest association with school concerns.

Table 3. Multivariate linear regression of pre-transition school concerns

	<i>b</i>	β (standardized beta)	<i>p</i>
<i>Full model</i> $R^2 = .351$			
Depression	0.279	0.050	.647
School anxiety	2.760	0.163	.124
General anxiety	1.2108	0.193	.097
Emotional problems	0.819	0.073	.552
Conduct problems	-0.504	-0.033	.716
Peer problems	4.551	0.310	.001***
Gender	11.993	0.222	.008*
<i>Stepwise model</i> $R^2 = .328$			
Peer problems	4.647	0.316	.001***
General anxiety	2.047	0.327	.001***
Gender	12.443	0.231	.004**

Note. Shaded areas indicate significant associations found in both the primary and secondary school samples. Full model, all variables entered simultaneously; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3 shows the results of the multiple regression analysis for concerns at primary school. It can be seen from the results of the full model that peer problems as measured by the SDQ was the variable that was most strongly associated with SCQ ($b = 4.55$, $\beta = 0.310$, $p = .001$). Gender was also strongly associated with SCQ and there was a non-significant trend for higher symptoms of generalized anxiety as measured by the SCARED (Birmaher *et al.*, 1999) to be associated with higher SCQ scores ($b = 1.210$, $\beta = 0.193$, $p = .097$). These three variables also emerged from the stepwise regression analysis and together accounted for 35% of the variation in SCQ at primary school.

For the secondary school sample, a larger number of variables were significantly associated with SCQ scores when examined individually. They were; school anxiety, general anxiety, depression, emotional problems, peer problems, hyperactivity, peer nominations of unhappiness, bullying, and victimization. Table 4 shows the multiple regression results for post-transition concerns. Generalized anxiety was most strongly associated with SCQ at secondary school ($b = 2.177$, $\beta = 0.355$, $p = .001$). Depression was also significantly associated with SCQ independent of the contribution of generalized anxiety ($b = 1.584$, $\beta = 0.233$, $p = .01$). The final model included three variables (gender, generalized anxiety, depression) and accounted for 34% of the variation in school concerns. Thus, general anxiety and gender both significantly contributed to variation in school concerns at primary school and at secondary school. Whereas, peer problems contributed significantly only to school concerns at primary school and depression was significantly associated with concerns at secondary school only.

Table 4. Multivariate linear regression of post-transition school concerns

	<i>b</i>	β (standardized beta)	<i>p</i>
<i>Full model</i> $R^2 = .375$			
Depression	1.584	0.233	.011*
School anxiety	-1.874	-0.118	.168
General anxiety	2.177	0.355	.001***
Emotional problems	0.359	0.033	.742
Conduct problems	-1.672	-0.102	.210
Peer problems	2.132	0.132	.053 [†]
Hyperactivity	0.775	0.056	.429
Unhappy	-14.462	-0.035	.636
Bully	-19.708	-0.062	.373
Victim	9.660	0.033	.662
Gender	6.864	0.135	.054 [†]
<i>Stepwise model</i> $R^2 = .337$			
Depression	1.243	0.183	.021*
General anxiety	2.445	0.399	.001***
Gender	7.442	0.147	.020*

Note. Shaded areas indicate significant associations found in both the primary and secondary school samples. Full model, all variables entered simultaneously; [†] $p < .1$; * $p < .05$; *** $p < .001$.

Continuity of secondary school concerns pre- and post-transition

Fifty-seven pupils completed the assessments both pre- and post-transition. The SCQ showed continuity over time with a significant correlation between secondary school concerns pre- and post-transition ($r = .392$, $p = .004$). As with the cross-sectional data,

girls continued to show higher concerns post-transition ($t = -3.024$, $df = 54$, $p = .004$). Internalizing problems at primary school were positively correlated with post-transition secondary school concerns (emotional problems - $r = .362$, $p = .008$; generalized anxiety - $r = .333$, $p = .014$; depressive symptoms - $r = .276$, $p = .04$). Pupils rated as disruptive by their peers at primary school showed lower post-transition concerns at secondary school ($r = -.308$, $p = .04$). However, correlations between school concerns at primary school and two other measures of secondary school adjustment, secondary school liking, and trust and respect for teachers at secondary, were not significant ($r = -.140$, $p = .336$; $r = -.236$, $p = .128$, respectively).

Discussion

The transition from primary to secondary school involves pupils having to negotiate and adapt to a more challenging school setting with different academic structures and expectations as well as changes in social interactions with teachers and peers (Anderson *et al.*, 2000; Seidman *et al.*, 1994). A period of apprehension around transition is expected for most pupils. However, a significant minority of pupils will experience a range of difficulties in adjusting to secondary school. Moreover, evidence suggests that a poor transition to secondary school can impair attainment and adjustment during (e.g., Seidman *et al.*, 1994) and beyond the school years (West *et al.*, 2008). This study sought to evaluate the reliability and validity of the SCQ, enabling an appraisal of its utility in informing school led initiatives aimed at preparing pupils generally for the transition to secondary school and transition support programmes aimed at particularly vulnerable pupils (e.g., Wassell *et al.*, 2007).

We found that reliability of the measure was good both in the pre- and post-transition phases of the study with alpha values greater than .9. Concerns were higher in girls than boys both pre- and post-transition. This finding is in line with a number of previous studies (Anderson *et al.*, 2000; Blyth *et al.*, 1983). We also found that school concerns reduced post-transition, as has been found by previous research using both open-ended techniques (Brown & Armstrong, 1982; Stradling & MacNeil, 2000; Zeedyk *et al.*, 2003) and other questionnaire measures (Sirsch, 2003; Smith *et al.*, 2008) for assessing pupils' worries. For instance, a number of studies have reported that for the majority of pupils, worries about transition appear to be relatively short lived and decline during the first term of secondary school (Murdoch, 1966; Stradling & MacNeil, 2000; Youngman & Lunzer, 1977).

We identified the five concerns with the highest mean ratings both pre- and post-transition and again found considerable consistency with previous research using alternative assessment techniques. Being bullied and homework were the most highly endorsed concerns about secondary school both pre- and post-transition. Descriptive studies have shown that bullying is a frequently endorsed concern during transition (Brown & Armstrong, 1982; Lucey & Reay, 2000; Smith *et al.*, 2008). At primary school, highly endorsed concerns also related to environmental and procedural features most different from pupils' experience, such as changing classes and the size of the school. However, in our study, these types of concerns were less apparent in secondary school pupils where concerns about older pupils and being able to do the work emerged instead.

It may be that these slight changes in the types of concerns most strongly endorsed by primary and secondary pupils relate to their adaptation to the new school environment and procedures. This result seems to suggest that pupils adapt relatively quickly to some

changes in the school microenvironment (e.g., new settings and structures) but that other school environment changes (e.g., the greater individual responsibility involved in remembering equipment and managing homework requirements) take longer to adapt to and remain concerning for pupils. Moreover, changes in the peer microenvironment appeared to take on greater importance at secondary school with the emergence of concerns about older pupils in the top five school concerns, and the elevation of bullying to the position of highest concern.

A complementary perspective was provided by our exploratory factor analysis which indicated that broadly speaking, the pattern of factor loadings replicated at primary and secondary school phases with three factors identified. These factors appeared to be tapping new expectations and rules; social situations and other pupils. The type of concerns accounting for the greatest proportion of variation were those relating to new expectations and rules of secondary school – at primary and secondary school this factor accounted for over 40% of the variance in the SCQ.

Nevertheless, changes in the most frequently endorsed school concerns might be expected as pupils adjust to their new secondary school environment and some changes in factor loadings were identified across the primary and secondary samples. For example, concerns about making new friends loaded on factor 1 ‘new rules and expectations’ at primary school but on factor 3 ‘social situations’ at secondary school. Making new friends could be interpreted as a major objective to be achieved when starting secondary school, at a time when the majority of a pupil’s fellow classmates may be new to them. However, once a pupil has become friends with a number of classmates, the objective of making more new friends becomes a task that is much more social in nature as opposed to one that is part and parcel of adjusting to the new structure of secondary school where most fellow pupils are not known well.

We used several methods to examine the validity of the SCQ. We argued that if it has concurrent validity, then post-transition it should be associated with more negative attitudes to school and teachers. As expected, we found that post-transition concerns were correlated with reduced liking for school and with reduced trust in and respect for teachers. While the patterns of findings obtained for boys and girls were similar, girls expressed more positive attitudes towards school and teachers. Gender differences favouring girls have been found in other studies using this measure (Battistich *et al.*, 1995) and other measures of liking for school (Ireson & Hallam, 2005).

We next hypothesized that if the SCQ had discriminant validity it should correlate with measures of internalizing problems, but not with positive aspects of adjustment. School concerns at both primary and secondary school were strongly associated with generalized anxiety symptoms but were not associated with positive aspects of adjustment such as prosocial and cooperative behaviour. Taken together, these results suggest that the SCQ is a valid tool for assessing school concerns around the transition to secondary school.

The exploratory investigation of the relationship between the SCQ and measures of externalizing problems produced mixed results. Although self-rated conduct problems at primary school were associated with increased school concerns, this pattern of results did not persist post-transition. In fact, at secondary school those pupils who were nominated as bullies by their peers showed significantly lower levels of school concerns. Similarly, results from the small longitudinal sample indicated that disruptive pupils had lower post-transition concerns. It remains to be seen whether very low levels of school concerns are adaptive or not. Thus, although disruptive behaviour may be a marker of a poor transition or increase the likelihood of school motivation problems and disengagement, the SCQ

may not be a good measure for identifying this group of pupils at risk of poor school transition. One final aspect of secondary school transition that may be important to consider is the nature of pupil concerns within a particular area which may change over the course of transition. For example, pre-transition, pupils' academic concerns may focus on coping with anticipated extra work whereas, post-transition, aspects such as lack of challenge and the number of revision topics may predominate (Galton *et al.*, 2000). Qualitative changes such as these will not be captured well by simple quantitative measures of concerns such as the SCQ.

A number of further limitations should be borne in mind. There is first of all the number and nature of the measures used. It should be acknowledged that the domain of internalizing problems is more extensively sampled by the measures used than is the domain of prosocial behaviour and this may have a bearing on the findings obtained. However, the findings for externalizing problems and peer problems indicate that breadth of domain sampling is unlikely to be a particularly pertinent issue. Within domains patterns across variables are similar, although correlations of the self-report SCQ with other self-report measures tend to be higher than are those with the peer assessment measures. While there may therefore be some effect of common method variance, it does not provide an adequate explanation for the results obtained. The present study is mainly cross-sectional and includes two separate samples of pupils assessed at primary and secondary school with repeated measures data pre- and post-transition only available for a small number of pupils. This was in part due to the choice of secondary school available; pupils from the 6 primary schools went to 18 different secondary schools. This is a limitation that could valuably be addressed by future longitudinal research.

In summary, the SCQ is a reliable, simple to complete self-report measure that shows validity by virtue of its association with well-established measures of internalized distress and with reduced liking for school post-transition. This measure could be of value in evaluating and informing the development of universal and targeted intervention programmes aiming to smooth the primary to secondary school transition.

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Appendix. Description of questionnaire measures of school-related concerns

Study	Description of measure	Example question(s)	Assessment time frame
Brown and Armstrong (1982)	Checklist questionnaire designed for the study	Checklist version of questionnaire developed from thematic analysis of essays about feelings on coming to secondary school: (1) feeling lonely; (2) feeling lost; (3) being small; (4) not having friends; (5) not knowing anyone; (6) coping without best friend from junior school; (7) rumours about teachers in the school; (8) fear of other 'horrid pupils'; (9) fear of being bullied; (10) friend pairing off with someone else; (11) catching wrong bus; (12) detentions; (13) not getting right uniform; (14) being told off; (15) being late; (16) doing wrong; (17) strict teachers; (18) tackling new subjects; (19) general fear of school routines; (20) doing homework; (21) unused to different teachers; (22) tests Pupils asked to rate which of the worries (if any) still troubled them	Current concerns. Post-transition (end of second term of secondary) N.B. girls only
Evangelou et al. (2008)	Questionnaire entitled Settling into Secondary School designed for the study that combines yes/no scales, rating scales, and open ended components	Did you feel prepared for moving on to secondary school? If yes, who helped you and how? Did your secondary school give you enough help to settle in? (Rated on a three-point scale) Now that you've been in secondary school for a term, please tick the routines below that you know really well: (registration, clubs and activities, lunches, using school equipment, PE kit, school wear, getting to lessons on time, who to ask for advice)	Retrospective concerns (6 items) Current concerns (10 items) Post-transition (end of first term of secondary)

Appendix. (Continued)

Study	Description of measure	Example question(s)	Assessment time frame
Harter et al. (1992)	Rating scale questionnaire entitled The School Work Performance Concerns Questionnaire (SWPC) (Buhrmester, unpublished Masters dissertation)	Assesses concerns over school performance and evaluation Four 7-item subscales tap children's worrying about test performance, peer acceptance, physical activities, and school conduct <i>How worried are you about getting your homework in on time? All items rated on a 4-point scale</i>	Current concerns Both pre- and post-transition (last term of elementary school and first term of middle school)
Sirsch (2003)	Rating scale questionnaire entitled The Impending Transition to Secondary School Perceived as a Challenge and Threat (ITCT) designed for the study	Four subscales (academic challenge; (AC – 8 items), academic threat; (AT – 8 items); social challenge (SC – 6 items); social threat (ST – 6 items). All items begin with the statement 'When I think of the fact that I will go to a new school next year then I...' <i>Look forward to it since I can show what I have learnt (AC)</i> <i>Worry about it since I may not be able to follow the lessons (AT)</i> <i>Look forward to it since I will be able to talk to and play with nice kids (SC)</i> <i>Worry about it since I may get classmates who do not like me (ST)</i> All items rated on a 4-point scale	Current concerns Pre-transition (last term of primary)
Smith et al. (2008)	Rating scale questionnaire entitled The Perceptions of Transition Survey adapted from Akos and Galassi (2004)	Four subscales (academic – 11 items; social – 11 items; organizational – 5 items; help preparing for the transition – 3 items) <i>'I look forward to getting good grades,' and 'I am worried about having difficult teachers.'</i> (Academic)	Current concerns Pre- and post-transition (last term of middle school, first term of Freshman Centre)

Appendix. (Continued)

Study	Description of measure	Example question(s)	Assessment time frame
		<p>'I look forward to attending school events', and 'I am worried about not fitting in'. (Social)</p> <p>'I worry about finding my way around', and 'I look forward to being in a large school'. (Organizational)</p> <p>How helpful were the following people in assisting pupils prior to and after the transition to high school: eighth grade counselor, eighth grade teachers and parents. All items rated on a 4-point scale</p>	
Thomasson et al. (2006)	Rating scale questionnaire with an open ended component designed for use in transition support intervention programme	Seventeen-item checklist: (1) making new friends; (2) older children; (3) lots of different teachers; (4) following a time table; (5) being bullied; (6) getting to school; (7) homework; (8) dinner times; (9) PE; (10) changing classes; (11) being able to do the work; (12) toilets; (13) remembering equipment for school; (14) what to do if you're feeling ill; (15) lots of people; (16) break time; (17) size of school	Current
		Open ended section where an additional 2 concerns can be mentioned by the pupil All items rated on a 10-point scale	Pre- and post- transition
Zeedyk et al. (2003)	Open ended questionnaire designed for the study	For primary pupils: does anything worry you about secondary? For secondary pupils: when you were in primary 7, what do you remember worrying about for going up to secondary?	Current concerns for pre-transition Retrospective concerns for post-transition