

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/136847/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Rice, Frances , Ng-Knight, Terry, Riglin, Lucy, Powell, Victoria, Moore, Graham F. , McManus, Chris I., Shelton, Katherine H. and Frederickson, Norah 2021. Pupil mental health, concerns and expectations about secondary school as predictors of adjustment across the transition to secondary school: A longitudinal multi-informant study. *School Mental Health* 13 , pp. 279-298. 10.1007/s12310-021-09415-z

Publishers page: <http://dx.doi.org/10.1007/s12310-021-09415-z>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



Table 1*Characteristics of the Sample Completing Baseline and Follow-Up Assessments*

Characteristic	%	Range by school (minimum %, maximum %)
Eligible for free school meals	14.5	4.2, 28.4
English as a first language	72.7	22.8, 98.4
Black, Asian and Minority Ethnic Group	37.2	3.3, 91.0
Any Special Educational Need	15.3	9.8, 33.3
Gender (% male)	50.2	41.1, 59.6

Note. $N = 667$.

Table 2*Cross-sectional Correlations and Descriptive Statistics for Study Variables*

Study Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Pupil concerns	-												
2. Parent expectations	-.295***	-											
3 Teacher expectations	-.121*	.353***	-										
4. Emotional problems	.319***	-.362***	-.318***	-									
5. Peer problems	.191***	-.276***	-.371***	.473***	-								
6. Conduct problems	.128***	-.179***	-.287***	.272***	.311***	-							
7. Hyperactivity	.162***	-.382***	-.400***	.314***	.289***	.458**	-						
8. Total difficulties	.286***	-.439***	-.482***	.746***	.702***	.637**	.763***	-					
9. FSM eligibility	-.006	.028	-.206***	.133*	.217***	.054	.021	.150*	-				
10. SEN status ^b	.262***	-.461***	-.584***	.354***	.362***	.295**	.412***	.479***	.246***	-			
11. EAL	-.041	.220***	.082	-.004	.088	.061	-.028	.023	.122*	-.047	-		
12. Attainment (year 6)	-.177***	.234***	.520***	-.248***	-.263***	-.168**	-.243***	-.324***	-.282***	-.591***	-.121**	-	
13. Female gender	.105*	.055	.158**	.036	-.092*	-.137**	-.250***	-.153***	-.024	-.169***	.002	-.061 ^a	-
Mean	70.01	16.47	16.63	1.88	1.39	1.00	2.90	7.16	.16	1.29	.29	4.23	.47
SD	30.51	2.26	3.00	2.22	1.78	1.28	2.49	5.62	.37	.66	.45	.69	.50

^a $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$. $N = 433-1643$ Acronyms: START = The Secondary Transition Adjustment Research Tool; FSM = Free School

Meal eligibility; SEN = Special Educational Need status; EAL = English as an Additional Language. ^b to examine the association of SEN with binary variables, SEN status was dichotomised and a tetrachoric correlation calculated.

Table 3*Demographic Information with Indicators of Post-Transition Adjustment to Secondary School*

Study Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Free School Meal eligibility	-								
2. Special Educational Need status ^b	.246***	-							
3. English as an Additional Language	.122*	-.047	-						
4. Female gender	-.024	-.169***	.002	-					
5. Attainment (post-transition)	-.302***	-.649***	-.037	-.119***	-				
6 Cooperative classmate rated behaviour	-.159***	-.374***	-.064 ^a	.206***	.399***	-			
7. Disruptive classmate rated behaviour	.168***	.284***	.044	-.420***	-.334***	-.564***	-		
8. School liking	-.084*	-.032	-.025	.040	.067**	.148***	-.127***		
9. Loneliness at school	.041	.202***	-.018	.037	-.141***	-.197***	.115***	-.295***	-

Note. $N = 1331$ to 1643 . ^a $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

^b to examine the association of SEN with binary variables, SEN was dichotomised and a tetrachoric correlation calculated.

Table 4*Longitudinal Associations with Indicators of Post-Transition Adjustment to Secondary School (Unadjusted)*

Post-transition outcome	Academic attainment				Cooperative behaviour				Disruptive behaviour				School liking				Loneliness at school			
	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>
		<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>	
Pre-transition child rated concerns	-.121	-.194	-.041	.003	-.081	-.159	.004	.061	.038	-.043	.110	.384	.017	-.061	.093	.682	.286	.186	.329	<.001
Pre-transition parent rated expectations	.249	.173	.324	<.001	.205	.121	.281	<.001	-.119	-.184	-.033	.005	.104	.025	.182	.010	-.216	-.282	-.130	<.001
Pre-transition teacher rated expectations	.502	.437	.607	<.001	.402	.297	.481	<.001	-.341	-.375	-.209	<.001	.107	.010	.201	.031	-.280	-.360	-.178	<.001
Pre-transition parent rated total difficulties	-.320	-.395	-.247	<.001	-.309	-.379	-.224	<.001	.285	.186	.331	<.001	-.087	-.155	-.066	.033	.266	.172	.317	<.001

Note. SEN = special educational needs; FSM = eligible for free school meals.

Table 5*Longitudinal Associations with Indicators of Post-Transition Adjustment to Secondary School (Adjusted)*

Post-transition outcome	Academic attainment				Cooperative behaviour				Disruptive behaviour				School liking				Loneliness at school			
	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>
		<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>	
Pre-transition child rated concerns	-.045	-.114	.026	.217	-.047	-.126	.035	.269	.015	-.059	.089	.719	.013	-.069	.093	.771	.299	.195	.344	<.001
SEN status	-.450	-.588	-.427	<.001	-.261	-.374	-.192	<.001	.255	.179	.342	<.001	.006	-.008	.100	.895	.072	-.011	.166	.086
Female gender	-.003	-.071	.065	.932	.135	.050	.207	.001	-.313	-.352	-.211	<.001	.047	-.035	.124	.271	.039	-.038	.108	.346
FSM	-.148	-.233	-.083	<.001	-.086	-.171	-.004	.039	.113	.034	.183	.005	-.071	-.161	.013	.097	-.040	-.122	.042	.336
Pre-transition parent rated expectations	.131	.059	.202	<.001	.157	.070	.237	<.001	-.061	-.129	.020	.151	.114	.028	.199	.009	-.209	-.280	-.118	<.001
SEN status	-.410	-.552	-.388	<.001	-.178	-.290	-.102	<.001	.175	.093	.262	<.001	.056	-.033	.155	.205	.069	-.018	.164	.115
Female gender	.011	-.056	.076	.759	.105	.023	.178	.011	-.289	-.325	-.186	<.001	.065	-.015	.138	.116	.079	-.002	.143	.055
FSM	-.193	-.274	-.131	<.001	-.097	-.178	-.017	.018	.106	.025	.170	.008	-.051	-.133	.031	.221	.001	-.079	.079	.998
Pre-transition teacher rated expectations	.335	.258	.441	<.001	.334	.218	.430	<.001	-.224	-.284	-.100	<.001	.133	.022	.246	.019	-.329	-.428	-.214	<.001
SEN status	-.337	-.487	-.289	<.001	-.121	-.242	-.014	.027	.139	.031	.229	.010	.108	-.003	.248	.055	-.012	-.132	.105	.821
Female gender	-.046	-.125	.032	.243	.072	-.024	.162	.144	-.260	-.303	-.141	<.001	.039	-.059	.134	.446	.080	-.016	.165	.107
FSM	-.124	-.234	-.053	.002	-.034	-.138	.067	.495	.091	-.004	.174	.062	-.010	-.123	.101	.844	-.063	-.172	.037	.207
Pre-transition parent rated total difficulties	-.128	-.202	-.054	.001	-.227	-.306	-.135	<.001	.199	.101	.254	<.001	-.108	-.184	-.016	.019	.278	.174	.334	<.001
SEN status	-.411	-.512	-.392	<.001	-.147	-.259	-.066	.001	.109	.024	.197	.012	.058	-.034	.159	.203	.032	-.058	.126	.471
Female gender	.004	-.062	.070	.911	.083	.003	.157	.041	-.271	-.309	-.171	<.001	.057	-.023	.129	.173	.100	.018	.161	.014
FSM	-.188	-.270	-.127	<.001	-.083	-.163	-.003	.041	.081	.003	.146	.042	-.016	-.097	.066	.710	-.031	-.106	.048	.456

Note. SEN = special educational needs; FSM = eligible for free school meals.

Table 6*Regression Analysis of Longitudinal Associations Pre-Transition Predictors Entered Simultaneously with Post-Transition Outcomes*

Post-transition measure	Academic attainment				Cooperative Behaviour				Disruptive behaviour				School liking			Loneliness at school				
	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>
		<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>	
R ²	.227				.191				.151				.022				.121			
Child rated concerns	-.025	-.118	.069	.606	.039	-.064	.139	.473	-.138	-.210	-.025	.013	.092	-.017	.194	.099	.185	.074	.273	.001
Parent rated expectations	.141	.038	.246	.008	.057	-.057	.168	.334	.018	-.087	.118	.765	.043	-.079	.164	.489	-.069	-.185	.049	.254
Teacher rated expectations	.403	.309	.520	<.001	.330	.207	.437	.001	-.232	-.306	-.097	.001	.079	-.041	.196	.197	-.163	-.272	-.048	.005
Total parent rated difficulties	-.005	-.108	.099	.930	-.143	-.244	-.016	.026	.240	.090	.299	.001	-.056	-.171	.067	.393	.078	-.043	.186	.219

Supplementary Information

Supplementary Figure 1

The Pupil Concerns Questionnaire

Your New Secondary School

Here is an example of a rating scale:



We would like to ask you some questions about any concerns or worries you may have about your new secondary school. Please rate each of the following using the scale above. For example, if you were really worried you would put a 10 in the box.							
Making new friends		Older children		Lots of different teachers		Following a timetable	
Being bullied		Getting to school		Homework		Dinner times	
PE		Changing classes		Being able to do the work		Toilets	
Remembering equipment for school		What to do if you are feeling ill		Lots of people		Break time	
Size of school		Discipline and detentions		Losing old friends		Getting lost	
If you have any other concerns you can write in the boxes below and then rate your concerns with the same scale as above...							

Supplementary Table 1*Mean Scores for Individual Pupil Concerns About Secondary School Pre- and Post-Transition*

	Wave 3: End of year 7 (post-transition)	Wave 2: Start year 7 (pre-transition)	Wave 1: End of year 6 (pre-transition)
Making new friends	2.56	3.33	3.34
Older children	3.23	4.28	4.12
Lots of different teachers	2.07	2.98	3.18
Following a timetable	1.82	2.45	3.15
Being bullied	3.42	3.97	4.28
Getting to school	1.85	2.29	2.21
Homework	3.4	4.76	4.48
Dinner times	1.61	2.06	2.39
Physical Education	2.03	2.39	2.31
Changing classes	2.33	3.09	3.53
Being able to do the work	2.82	3.51	3.71
Toilets	2.03	2.3	2.39
Remembering equipment for school	2.85	3.7	3.62
What to do if you are feeling ill	2.64	3.25	3.16
Lots of people	2.31	3.28	3.29
Break time	1.53	1.87	2.33
Size of school	2.28	3.92	4
Discipline and detentions	3.73	4.84	4.3
Losing old friends	4.27	5.31	4.98
Getting lost	2.59	4.39	5.04
Total score	51.34	67.53	69.81

Supplementary Table 2

Longitudinal Associations with Indicators of Post-Transition Adjustment to Secondary School with IPW Applied (Adjusted)

Post-transition outcome	Academic attainment				Cooperative behaviour				Disruptive behaviour				School liking			Loneliness at school				
	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>
		LL	UL			LL	UL			LL	UL			LL	UL			LL	UL	
Pre-transition child rated concerns	-.049	-.093	-.004	.034	-.052	-.102	.001	.053	.008	-.038	.052	.756	.009	-.043	.060	.751	.300	.224	.318	<.001
SEN status	-.504	-.554	-.453	<.001	-.275	-.332	-.218	<.001	.250	.200	.301	<.001	.004	-.055	.063	.887	.076	.021	.132	.007
Gender	.001	-.042	.045	.959	.144	.094	.194	<.001	-.277	-.321	-.233	<.001	.040	-.011	.091	.122	.019	-.028	.065	.430
FSM	-.146	-.192	-.099	<.001	-.089	-.141	-.036	.001	.107	.061	.153	<.001	-.060	-.115	-.006	.030	-.049	-.100	.002	.059
Pre-transition parent rated expectations	.125	.079	.171	<.001	.138	.082	.188	<.001	-.063	-.103	-.009	.019	.117	.061	.170	<.001	-.199	-.243	-.138	<.001
SEN status	-.471	-.523	-.419	<.001	-.194	-.253	-.135	<.001	.163	.111	.215	<.001	.055	-.005	.114	.071	.072	.015	.130	.014
Gender	.016	-.026	.058	.457	.103	.054	.152	<.001	-.254	-.298	-.221	<.001	.060	.012	.109	.015	.054	.007	.100	.024
FSM	-.184	-.229	-.138	<.001	-.109	-.161	-.058	<.001	.094	.049	.139	<.001	-.046	-.098	.007	.086	-.015	-.065	.036	.568
Pre-transition teacher rated expectations	.332	.291	.413	<.001	.331	.259	.398	<.001	-.218	-.244	-.127	<.001	.138	.066	.212	<.001	-.331	-.401	-.258	<.001
SEN status	-.383	-.447	-.319	<.001	-.113	-.186	-.041	.002	.124	.063	.185	<.001	.122	.042	.202	.003	-.024	-.101	.053	.542
Gender	-.045	-.097	.006	.084	.058	-.002	.118	.057	-.220	-.270	-.169	<.001	.028	-.034	.090	.370	.058	-.001	.117	.053
FSM	-.117	-.176	-.059	<.001	-.058	-.123	.008	.084	.095	.040	.150	.001	-.012	-.084	.060	.742	-.089	-.156	-.021	.010
Pre-transition parent rated total difficulties	-.106	-.155	-.059	<.001	-.226	-.278	-.168	<.001	.198	.128	.225	<.001	-.115	-.162	-.054	<.001	.268	.197	.302	<.001
SEN status	-.485	-.539	-.431	<.001	-.154	-.214	.093	<.001	.098	.045	.152	<.001	.057	-.004	.117	.066	.034	-.024	.093	.253
Gender	.011	-.032	.053	.628	.080	.031	.129	.001	-.237	-.280	-.194	<.001	.051	.003	.099	.037	.075	.029	.121	.001
FSM	-.183	-.228	-.137	<.001	-.098	-.148	-.047	<.001	.074	.029	.119	.001	-.010	-.061	.042	.712	-.042	-.091	.008	.098

Note. SEN = special educational needs; FSM = eligible for free school meals.

Supplementary Table 3

Regression Analysis of Longitudinal Associations Pre-Transition Predictors Entered Simultaneously with Post-Transition Outcomes Inverse

Probability Weighting Applied

Post-transition measure	Academic attainment				Cooperative Behaviour				Disruptive behaviour				School liking				Loneliness at school				
	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	β	95% CI		<i>p</i>	
		<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>		
Inverse Probability Weighted																					
Child rated concerns	-.038	-.101	.024	.229	.040	-	.106	.251	-.153	-.188	-.070	<.00	.073	.001	.14	.04	.214	.137	.268	<.00	
Parent rated expectations	.167	.101	.240	<.00	.051	.028	.123	.187	.013	-.054	.076	1	.042	-.038	0	7	-.078	-.154	-	1	
Teacher rated expectations	.395	.348	.488	1	.342	-	.418	<.001	-.224	-.262	-.128	.740	.081	.003	.12	.30	-.186	-.262	.001	.046	
Total parent rated difficulties	.023	-.047	.092	<.00	-	.024	-	.003	.235	.121	.255	<.00	-.073	-.145	1	1	.060	-.019	-	<.00	
				1	.125	.267	.040					1		.16	.04				.114	1	
				.527	-							<.00		0	1				.130	.146	
					.191							1		.01	.09						
														2	5						

Supplementary Table 4

Longitudinal Associations with Post-Transition School Liking with School Attended Included as a Random Effect

Pre-transition exposures and covariates	Association with post-transition school liking			
	Adjusted β	95% CI		<i>p</i>
		<i>LL</i>	<i>UL</i>	
Pre-transition child rated concerns	.008	-.071	.086	.848
SEN status	.011	-.081	.102	.818
Gender	.043	-.034	.120	.274
FSM	-.076	-.161	.010	.082
Pre-transition parent rated expectations	.108	.024	.191	.011
SEN status	.057	-.035	.149	.223
Gender	.056	-.018	.130	.138
FSM	-.059	-.140	.022	.153
Pre-transition teacher rated expectations	.117	.007	.226	.036
SEN status	.099	-.022	.220	.110
Gender	.041	-.051	.133	.385
FSM	-.014	-.123	.094	.795
Pre-transition parent rated total difficulties	-.092	-.173	-.010	.027
SEN status	.056	-.038	.149	.242
Gender	.049	-.024	.122	.191
FSM	-.030	-.111	.050	.458
Pre-transition child rated concerns	.074	-.037	.185	.191
Pre-transition parent rated expectations	.053	-.074	.179	.416
Pre-transition teacher rated expectations	.103	-.027	.232	.120
Pre-transition parent rated total difficulties	-.084	-.209	.040	.185
SEN status	.122	-.017	.260	.086
Gender	-.0002	-.105	.105	.997
FSM	-.019	-.146	.108	.767

Note. SEN = special educational needs; FSM = eligible for free school meals.