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Self-determination across the secondary-school years: how teachers and curriculum policy affect language learners' motivation

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ABSTRACT
Motivation is argued to be a critical predictor of language learning success, but it is not clear whether motivation is equally relevant across compulsory and optional language education contexts. This study explored the motivation of adolescent Anglophone students of other languages across secondary school year groups with a particular interest in the impact of choice and curricular structure. Based on Self-Determination Theory, we developed a model that maintains that perceptions of autonomy support predict learners' sense of autonomy, in turn enhancings motivation. Through a survey of 1775 students aged 11-16, we tested whether this model holds for learners from different year groups, and in later years, across those in schools with and without mandatory language education. We found that all learners reported less autonomy frustration and were more likely to report a more autonomous form of language learning motivation if they perceived their language teacher as autonomy-supportive, but that as learners progressed through school perceptions of autonomy support declined. Further, we found that motivation was strongly associated with curriculum policies providing choice. These differences in motivational profiles across year group have implications for how teachers might support students' across different years and for programmatic adaptations that might facilitate students' learning.

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Self-determination; language learning; secondary education; motivation

Introduction

Motivation is critical for success in language learning. It has been shown to be linked to valued outcomes such as higher grades (Alsheikh and Elhoweris 2011; Ehrman 1996; Kim 2011) and continuation behaviour (Davis 2022; McEown et al. 2014; Noels 2001; Noels et al 1999, 2001). Many of the studies in this area have considered the motivation of adult and undergraduate learners, with a considerably smaller number focused on adolescent and younger learners (see for example Oga-Baldwin et al. 2017; Oga-Baldwin and Nakata 2017), a situation Boo et al. describe as 'clearly far from ideal' (2015: 151). Of these, many investigated the learning of English rather than the learning of other languages (exceptions include Comanaru and Noels 2009; Courtney et al. 2017; Davis 2022, Katz et al. 2020; Ushioda and Dörnyei 2017). In the present study, we consider the motivation of adolescent (secondary school) learners of languages other than English in English schools, which we consider to be both a crucial area of research given the stereotyping of the British as 'bad' language learners (see Gruber and Tonkyn 2017) and a comparatively under-researched area. Most of the studies which have been conducted in schools in England with learners of modern foreign languages

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consider motivation without strong grounding in theory (for example Coleman et al. 2007; Williams et al. 2002), and none compare motivation in the subject across secondary school year groups to consider whether and how motivation varies across years of study.

This study fills this clear gap in our understanding by using Self-Determination Theory, an established theory of human motivation, to frame the motivation of adolescent learners of languages other than English in an anglophone secondary school setting (for an overview of language learning research from this perspective, see Noels et al. 2019a; Noels, 2023). Further, we examined these constructs in learners of all year groups in the compulsory secondary phase in order to track changes in motivation. We also consider the impact of curricular choice, by including some students who have freely chosen to enrol in a course on the subject and some who have been compelled to do so because of programme requirements.

Language learning in anglophone contexts

Foreign language learning in many anglophone nations exists 'in the shadow of Global English' (Dörnyei and Al-Hoorie 2017: 457) and suffers at the hands of an 'English is enough' mentality (East 2009; Group of Eight 2007; Lanvers 2017; Lo Bianco 2014). The instrumental value of language learning is seen as low given the ubiquity of English (Bartram 2006; Lo Bianco 2014; Taylor and Marsden 2014), and many secondary school students of foreign languages decry its usefulness (Lanvers 2012; McPake et al. 1999; Parrish 2023). Against this background, the importance of both the classroom experience (Chambers 1999) and the curriculum (Fisher 2001; Graham et al. 2016) are foregrounded.

Perhaps for these reasons, take-up of the subject beyond the age of 14 has been decreasing,[1] as have the modern language skills of the UK population (see Eurostat 2019). Any attempts to stem this decline generally focus on highlighting the instrumental, rather than personal, benefits of language learning (Chen and Breivik 2013; Tinsley 2013; Tinsley and Board 2017), a strategy that does not seem to be effective as study of modern foreign languages in the UK has repeatedly been described as being 'in crisis' (All-party parliamentary group on modern languages 2019; Lanvers and Coleman 2017). Although the protracted nature of the decline has led to a questioning of the acute 'crisis' narrative (Bowler 2020), it is certainly the case that the school subject, and the broader skill set, is in chronic decline and faces serious challenges. Europe-wide, the UK has the smallest proportion of adults aged 25–64 reporting that they know one or more foreign languages (34.6%; Sweden has the highest with 96.6%; Eurostat 2019). These 'crisis narratives' (Bowler 2020) have also been applied to modern language learning in other anglophone nations (Berman 2011; Davis 2022; Group of Eight 2007; Lanvers et al. 2018; Lanvers and Coleman 2017). Thus, although this study centres on England, it has potential implications for other predominantly anglophone countries facing similarly bleak language learning landscapes.

The landscape of secondary language education in the United Kingdom

The English school system is similar to many other educational systems, although terminology can differ. What are commonly called 'grades' around the world are, in the UK, known as 'years'. Secondary school begins at age 11 with Year 7, and the compulsory phase finishes at age 16 in Year 11. Years 12 and 13 are known as the 'sixth form' and are often academically selective. Within this framework, Years 7–9 are known collectively as Key Stage 3, Years 10–11 are Key Stage 4 and the sixth form is Key Stage 5. Students are able to select some of the subjects which they take in Key Stage 4, which ends with high-stakes public examinations known as GCSEs (General Certificate of Secondary Education). They can then choose all the subjects they take in Key Stage 5, which ends with the high-stakes A-Level (Advanced Level) examinations.

The term modern foreign languages (MFL) is used to cover the teaching of languages other than English within the curriculum. Most commonly, one or more of French, Spanish or German is taught and the subject is compulsory between the ages of 7 and 14 at the level of national policy in England.

At a school level, it may be compulsory until the age of 16, and around 44% of students sit GCSE exams in MFL at age 16 (Long et al., 2020). As curriculum policy is devolved to the four UK nations, different patterns exist in Wales, Scotland and Northern Ireland.

At a national level, policy initiatives such as the introduction of a school performance measure based on the proportion of students taking a set combination of subjects which included a language have impacted on take-up to some extent, although the effect has been patchy. This is due in part to the supersession of this performance measure by another which did not necessarily include a language (see Parrish 2023; Parrish and Lanvers 2019). In society more widely, the value of language learning is seen as low, and the subject is often considered the preserve of those with a higher socio-economic status by the media (Lanvers and Coleman 2017) - something borne out in geographical exam entry data (Tinsley and Board 2017).

Comparisons of motivation across year groups

The diverse requirements (or not) for MFL education can have important implications for students' motivation to learn a new language. In general, academic motivation has consistently been found to decline throughout adolescence, in both cross-sectional and longitudinal studies across a range of educational contexts and subjects (see Gnambs and Hanfstingl 2016 for an overview). Studies that have used an SDT perspective have shown that, in an Austrian context, intrinsic motivation declines between the ages of 11 and 15, and that this decline was linked to a decline in basic psychological need satisfaction (Gnambs and Hanfstingl 2016). In the UK context, student motivation has been argued to be problematic (Coleman et al. 2007; Lanvers 2017; Parrish and Lanvers 2019; Williams et al. 2002), and to decline between the ages of 11–14 (Coleman et al. 2007; Williams et al. 2002), as well as across Year 7, the first year of secondary school (Graham et al. 2016). Similar findings have been reported in Japan for learners of English (Carreira 2006). It is also well known that beyond the compulsory phase in England (i.e. beyond the age of 14), the number of students taking a MFL has dropped over the last two decades (for an overview, see Parrish 2023; Tinsley and Doležal 2018), suggesting that a desire to engage in optional language study is absent for many students. The optionality and lack of subject value that that implies mean that students' motivation is crucial in promoting take-up. Nevertheless, to date motivation has not been measured across all secondary school years in England, and this study addresses this gap, using a theoretical framework that offers a clear explanation for why demotivation may occur. By understanding more about learners' motivation in the English school context, and how it does or does not vary between year groups, we can go some way to understanding how the decline in take-up occurs and how it can be counteracted.

Self-Determination Theory

Many contemporary theories of language learning motivation focus on notions of the self and identity (Dörnyei 2005, 2009; Norton 2013). This study likewise assumes an important role of the self in language learning motivation, by using Self-Determination Theory (SDT) as its theoretical framework. As a general theory of human motivation, SDT is used to explain motivation across a range of domains, including general and language education (see Noels et al. 2019b, for review). Because it does not focus on a single target language it is especially suitable for looking at language learning in a compulsory setting such as a school. This theory is doubly advantageous in a compulsory learning context where, although some learners may see a personal relevance, others do not.

SDT usefully accounts for this diversity by providing clearly differentiated reasons for learning which fall along a continuum of motivation, from amotivation to intrinsic motivation, with extrinsic motivation broken down into three categories, namely external, introjected and identified regulation (Deci and Ryan 1985; Ryan and Deci 2017).[2] External and introjected regulation (being motivated by receiving praise or avoiding negative consequences, or a sense of internal pressure relating to the task) are considered 'controlled' motivations, as the locus of causality is not fully internalised. Controlled motivation

has been found to be difficult to sustain (Deci et al. 2001) and is linked to lower achievement (Soenens and Vansteenkiste 2005). By contrast, autonomous motivation, made up of identified and intrinsic regulation (seeing personal value in the task or enjoyment of the task for its own sake) has been linked to desirable academic outcomes and better well-being (Soenens and Vansteenkiste 2005).

Self-Determination Theory also takes into account the importance of three basic psychological needs (Deci and Ryan 2000), autonomy, competence and relatedness (positive relationships), which may be more or less satisfied or frustrated (Van der Kaap-Deeder et al. 2015). Autonomy is considered the most important of the needs, with autonomy support predicting the satisfaction of the others (Ryan and Deci 2017), and a body of literature describing teacher behaviours which support students' autonomy (see for example Ahmadi et al. 2023; Assor et al. 2002; Cheon et al. 2020; Reeve and Cheon 2021). Reeve and Cheon define autonomy supportive teaching as that which 'emerges out of a student-focused attitude and an understanding interpersonal tone' (55). Where teachers use autonomy-supportive behaviours, which include providing for student choice, using perspective-taking techniques ('the teacher seeing and experiencing classroom events as if he or she were the students (rather than the teacher)'; Reeve and Cheon 2021: 57) or giving a rationale for class activities (Ahmadi et al. 2023; Reeve and Cheon 2021), student outcomes, including engagement and attainment, improve (Cheon et al. 2020; Oga-Baldwin and Fryer 2018). Previous studies have found that when students' basic psychological needs are satisfied, their motivation is more autonomous (i.e. more towards the intrinsic end of the continuum; Carreira et al. 2013; Jang et al. 2009; Jang et al. 2016; McEown et al. 2014; Vansteenkiste and Ryan 2013). Greater self-determination has been linked to better educational outcomes (Barkoukis et al. 2014; Ulstad et al. 2016; see also Ryan and Deci 2017). It has also been found that where students perceived autonomy support, they reported more autonomy satisfaction, which was then linked to increased student engagement and achievement (Jang et al. 2012), including in a language learning context (Dincer et al. 2019; Oga-Baldwin et al. 2017). The converse has also been found to be true (Ryan and Deci 2000; Vansteenkiste and Ryan 2013). Studies looking at need satisfaction in language learning have also shown a positive link with motivation (Carreira et al. 2013; McEown et al. 2014; Noels 2013).

Objectives

The purpose of the present study is to investigate the association between English secondary school language learners' perception of their learning climate (especially their teachers' support), their sense of autonomy, and language learning motivation, and to see whether the association varies among learners from different year groups. The present study also intends to see how these learners' perception of support in the learning climate, a sense of autonomy and language learning motivation change as they move from lower to higher year groups.

Figure 1 summarises the hypothesised model. The hypotheses (H) are:

H1: Learners' perception of their language teacher's support in the learning climate predicts their sense of autonomy, which in turn predicts their autonomous/controlled language learning motivational orientations.
H2: The above relation holds for learners from different year groups.
H3: Learners from different year groups differ in the average scores of their perception of the learning climate, their sense of autonomy, autonomous and controlled motivational orientations.

Method

Participants

The participants were 1775 students in three secondary schools in a rural county in England, all of whom were studying MFL. Table 1 shows the demographic information of the students. Due to an oversight, gender identity was not recorded.

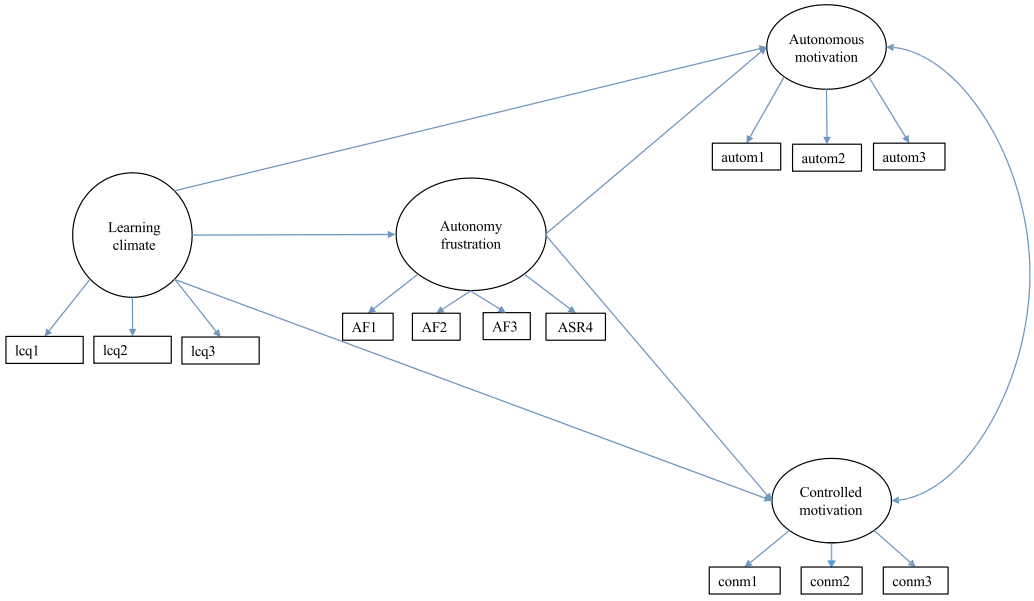

Figure 1. Hypothesised model.

Note. lcq refers to learning climate. AF refers to Autonomy frustration. autom refers to Autonomous motivation. conm refers to Controlled motivation.

Table 1. Participants by Year group

Year	Age	Key stage	Number	% of Sample
7	11–12	3	576	32.1
8	12–13		552	30.8
9	13–14		407	22.7
10	14–15	4	110	6.1
11	15–16		130	7.2
Total			1775	100.0

Measures

The questionnaire was made up of four instruments; all items were measured on a 4-point scale with end-points labelled 1 ('Not at all true') to 4 ('Completely true'). Sample items are presented in the Appendix.

Learning climate

The learning climate was measured using the six-item Learning Climate Questionnaire, which addresses students' perceptions of teacher support (e.g. 'I feel that my teacher provides me choices and options', Williams and Deci 1996; $\alpha = .88$).

Autonomy frustration

Students' autonomy frustration was measured using an adaptation of the Basic Psychological Need Satisfaction & Frustration Scale (BPNSFS, Chen et al. 2015). Three items indexed autonomy frustration ($\alpha = .73$) and one item measured autonomy satisfaction and was reverse-coded and combined with the other three items. The Cronbach alpha for all four items was .76.

Table 2. The continuum of motivation and sample questionnaire items (Ryan and Connell 1989; Vallerand et al. 1992)

	Controlled motivation (α= .86)		Autonomous motivation (α= .94)	
Amotivation (8 items; α= .91)	External regulation (9 items; α= .81)	Introjected regulation (9 items; α= .86)	Identified regulation (7 items; α= .88)	Intrinsic motivation (7 items; α= .92)
I can't see why I go to school and frankly, I couldn't care less.	Because I'll get in trouble if I don't	Because I want the teacher to think I'm a good student	Because I want to understand the subject	Because it's fun

Autonomous and controlled motivation

The Self-Regulation Questionnaire-Academic (SRQ-A; Ryan and Connell 1989) and items from the amotivation scale of the Academic Motivation Scale (AMS; Vallerand et al. 1992) measured the students' motivation to learn the language, with items responding to the questions 'Why do you do your classwork in language lessons?', 'Why do you do your languages homework?', 'Why do you try to answer questions in language lessons?' and 'Why do you try to do well in language lessons?', echoing the statements from the original instrument. Based on SDT's motivational orientation continuum, external regulation and introjected regulation items were combined to form controlled motivational orientation. Identified and intrinsic motivation items were combined to form autonomous motivational orientation (Ryan and Deci 2017; see Table 2). This approach allows 'for a more nuanced and potentially theoretically important examination of relative autonomy' (Howard et al. 2020: 537) than calculating the relative autonomy index does, and as such this further step was not taken.

Analytical plan

The study's first objective was to establish a model depicting the relation among learners' perception of their teacher's support in the learning climate, their psychological need satisfaction, and their motivational orientation, and to see whether the relation varies across year levels. In order to achieve this aim, we first hypothesised a model positing the relation among learning climate, autonomy frustration, autonomous motivation and controlled motivation. To reduce the number of indicators for learning climate, autonomous motivation, and controlled motivation, items were parcelled by combining a higher-loading item with a smaller-loading one, following the guidelines provided in Kline (2016). Autonomy frustration had four indicators including the three autonomy frustration items and one reverse-coded autonomy satisfaction item.

We examined the pattern of missingness in the variables of the study. Fourteen participants did not complete any of the questions, so only 1761 students were included in our model testing. We also looked at the descriptive statistics of these variables and correlations among them. After that, we did an initial confirmatory factor analysis (CFA) for all the participants followed by measurement invariance testing across different year groups from Years 7 to 11. The Year groups 10 and 11 were combined into one group which was designated 'Key Stage 4' due to the fact that these two groups did not form a large enough sample when considered separately. We then ran the full structural equation model across the groups to see whether the model differs significantly among these groups.

To attain the second objective of comparing learning climate, autonomy frustration, autonomous and controlled motivational orientation across year groups, we separated Key Stage 4 into those who had a choice of learning the language and those who did not when comparing the latent means. Two participants in the Key Stage 4 group did not answer the question about whether they believed they had a choice of learning the language, so they were excluded from this part of the analysis. We then compared the means of the four variables among the groups.

The preliminary data analysis was conducted using SPSS version 24 and data modelling using Mplus 7.4 (Muthén and Muthén 1998-2015-1998-2015). Global fit of the models was indicated by

statistical fit index: chi-square test (χ^2), two absolute fit indices: root mean square error of approximation (RMSEA) and standardised root mean residual (SRMR), and two relative fit indices: Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) (Kline 2016; Little 2013).

Results

Preliminary analysis

According to the descriptive statistics shown in Table 3, missing data ranged from 4.5% (autonomy frustration) to 13% (intrinsic motivation). Logistic regression was conducted to examine the pattern of missingness in the data. Missing data in the reverse-coded autonomy satisfaction item were correlated with whether the participants used English as an additional language. Missing data in introjected orientation were correlated with what language the participants were learning. Missingness in other variables was not related to any auxiliary or given variables. In this case, the pattern of missing data in the study was 'missing completely at random' and 'missing at random', as the missing data were either not related to any variables in the dataset or were explained by auxiliary variables but not the main analytical variables (Kline 2016). Because of this pattern, the missing data were handled by full information maximum likelihood estimation.

Table 3. Descriptive statistics for variables ($N = 1761$)

	Learning climate	Autonomy frustration	Autonomous motivational orientation		Controlled motivational orientation	
			Intrinsic motivation	Identified regulation	Introjected regulation	External regulation
	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)
Year 7 (*n = 570*)	2.88 (.70)	2.23 (.48)	2.60 (.42)	3.16 (.27)	2.68 (.18)	2.72 (.12)
Year 8 (*n = 550*)	2.72 (.09)	2.42 (.06)	2.18 (.05)	2.86 (.03)	2.55 (.02)	2.73 (.01)
Year 9 (*n = 402*)	2.67 (.01)	2.47 (.01)	2.03 (.005)	2.75 (.004)	2.41 (.002)	2.73 (.001)
Key Stage 4 Compulsory (*n = 134*)	2.91 (.001)	2.36 (.001)	2.16 (.0004)	2.89 (.0003)	2.54 (.0002)	2.76 (.0001)
Key Stage 4 Optional (*n = 103*)	3.32 (.00005)	1.95 (.00003)	2.46 (.00002)	3.25 (.00001)	2.61 (.00001)	2.58 (.000003)
Total (*N = 1761*)	2.81 (.70)	2.34 (.73)	2.29 (.83)	2.95 (.71)	2.56 (.67)	2.72 (.70)
% Missing	8.0	4.5	12.5	13	12.2	12.6
Skewness	−0.21	0.27	0.36	−0.49	−0.12	−0.28
Kurtosis	−0.50	−0.43	−0.75	−0.35	−0.41	−0.20

Table 4. Correlation among study variables ($N = 1761$)

			Learning climate	Autonomy frustration		Controlled motivation		Autonomous motivation	
			1	2	3	4	5	6	7
	1	Learning climate							
Autonomy frustration	2	Autonomy satisfaction	−.563**						
	3	Autonomy frustration	−.539**	.493**					
Controlled motivation	4	External orientation	−.182**	.188**	.353**				
	5	Introjected orientation	.265**	−.273**	−.149**	.389**			
Autonomous motivation	6	Identified orientation	.577**	−.576**	−.474**	−0.034	.567**		
	7	Intrinsic motivation	.608**	−.639**	−.519**	−.180**	.452**	.774**	

**$p < .001$.

Table 3 presents the descriptive statistics of the key variables used in the main analysis of the study and Table 4 shows the correlation among the above variables. Except for the external orientation and the identified orientation, all the other variables were significantly correlated with one another.

Confirmatory factor analysis

Following the preliminary analysis, a CFA was conducted on the full sample. The results (see Figure 2) showed an acceptable to close fit of the CFA model to the data ($\chi^2 = 682.707$ (59), $p < .0001$; RMSEA = .077, 90% CI = [0.072, 0.083]; CFI = .958, TLI = .945; SRMR = .062). All the path coefficients were statistically significant except for the one between Autonomy Frustration and Controlled Motivation. Although the modification indices suggested a few changes, they did not have theoretical merit, so we decided to accept this well fitting model, and use it for measurement invariance testing across the year groups.

Measurement invariance testing

The purpose of measurement invariance testing is to see whether participants from different groups respond to the measurement instruments in similar ways. Establishing measurement invariance ensures that any differences across groups are not due to the fact that the model and/or constructs are assessed differently across groups. The researcher can then be more confident that any group differences are due to hypothesised social and/or psychological processes. Three types of invariance are typically tested. The first is configural invariance, which establishes that the items from the measurement instruments group together as expected across all groups, operationally defining the expected number of factors (in this case the four factors represent the constructs of learning climate, autonomous motivation, controlled motivation and engagement). Metric invariance tests go beyond testing whether the pattern of items is the same across each group, to look at whether the magnitude by which the item defines each factor is the same across each group; it considers whether the unit of measurement is similar across each group. Scalar invariance tests whether the intercepts for each item are the same across groups; that is, whether the origin of measurement is the same across each group.

Table 5 depicts the results of measurement invariance at configural, metric, and scalar level. According to Kline (2016), approximate fit indices work better in terms of determining measurement invariance in the case of large sample sizes like the present one, as the chi-square difference test

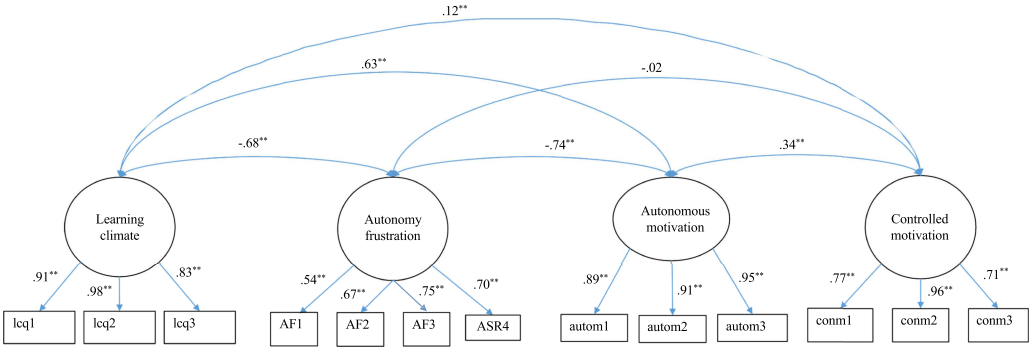

Figure 2. Results of the confirmatory factor analysis of the proposed model.

Note. lcq refers to learning climate. AF refers to Autonomy frustration. autom refers to Autonomous motivation. conm refers to Controlled motivation. **p<.001

Table 5. Measurement invariance testing results

Model	χ^2	*df*	CFI	RMSEA (90% C.I.)	SRMR
Baseline	862.584	236	.957	.078 (.072–.083)	.068
Measurement invariance					
Level 1: Configural invariance					
Level 2: Metric invariance	936.774	263	.954	.076 (.071–.082)	.075
Level 3: Scalar invariance	1000.566	290	.952	.075 (.070–.080)	.076

could be easily influenced by sample size. As a result, we used confirmatory fit index difference (ΔCFI) between models, set at ≤ .01, as the benchmark to determine whether the model was significantly different than the previous model. For the configural model (that is, testing whether the items group into the hypothesised factors), the global fit indices again showed an acceptable to close fit of the model to the data. For the metric and scalar models, although the chi-square difference tests were statistically significant, the change in the CFI (ΔCFI) was less than .01. Thus, we concluded that the CFA model was invariant in configural, metric and scalar level across the Levels 7 through 10/11.

Full model cross-group comparison

After the establishment of measurement invariance at all three levels, we compared the full structural equation model across the four year groups. We first applied the full model to all the participants, and global fit indices indicated that the model fit the data well ($\chi^2 = 682.707$ (59), $p < .0001$; RMSEA = .077, 90% CI = [0.072, 0.083]; CFI = .958, TLI = .945; SRMR = .062). All the paths were statistically significant (see Figure 3 and Table 6). It can be seen that the relations between learning climate and the two types of motivation were mediated by autonomy frustration (Table 7).

Then we compared the directional model across the year groups, and found that the model was invariant across the groups. ($\chi^2 = 1212.929$ (317), $p < .0001$; RMSEA = .08, 90% CI = [0.075, 0.085]; CFI = .939, TLI = .940; SRMR = .123). The directional model was also applied separately to each of these four groups individually to look into its generalisability across these groups. Table 8 shows that the global fit indices were acceptable across all four groups.

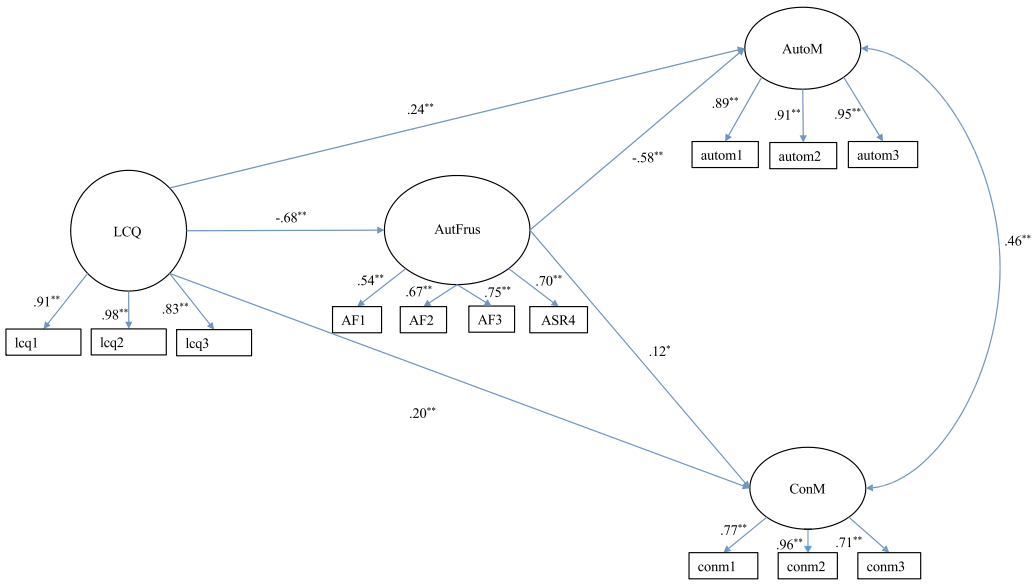

Figure 3. Full Model for the Whole Sample.

Note. lcq refers to learning climate. AF refers to Autonomy frustration. autom refers to Autonomous motivation. conm refers to Controlled motivation. **p<.001, *p<.05

Table 6. Maximum likelihood estimates for the full model.

Outcome variable	Predictor	*b*	*SE*	*t*	*p*	R^2
Autonomous motivation	Autonomy frustration	−0.58	0.035	−16.474***	<.001	.58
	Learning climate	0.24	0.035	6.772***	<.001	
Controlled motivation	Autonomy frustration	0.12	0.046	2.597**	.009	.02
	Learning climate	0.20	0.042	4.764***	<.001	
Autonomy frustration	Learning climate	−0.68	0.018	−37.076***	<.001	.47

Table 7. Estimates for indirect effect

Indirect Path	Estimate	*SE*	*t*	*p*
Learning climate →Autonomy frustration →Autonomous motivation	0.397	0.029	13.583***	<.001
Learning climate →Autonomy frustration →Controlled motivation	−0.081	0.032	−2.582*	.010

Table 8. Model fitness of the full model in the four groups (all *df* = 59)

Group	χ^2	CFI	RMSEA (90% C.I.)	SRMR
Year 7	211.637	.965	0.067 (0.058–0.077)	.066
Year 8	290.765	.948	0.085 (0.075–0.094)	.067
Year 9	196.289	.964	0.076 (0.064–0.088)	.065
Key Stage 4 (Years 10 & 11)	163.893	.949	0.086 (0.071–0.102)	.079

Latent mean comparison

We also compared the means of the four latent constructs across different year groups ($\chi^2 = 1125.475$ (367), $p < .0001$; RMSEA = .077, 90% CI = [0.072, 0.082]; CFI = .948, TLI = .945; SRMR = .081). Figures 4–7 showed the means of the latent constructs as a function of year group. We further divided the Key Stage 4 group into two subgroups based on whether learners in this particular group attended a school that required foreign language study or not. This division allows us to see whether the nature of the course engenders mean differences across the motivational variables.

In terms of the learning climate, the means showed a downward trend across year groups, declining from Year 7 to Year 9. Those Key Stage 4 learners who were engaged in compulsory language

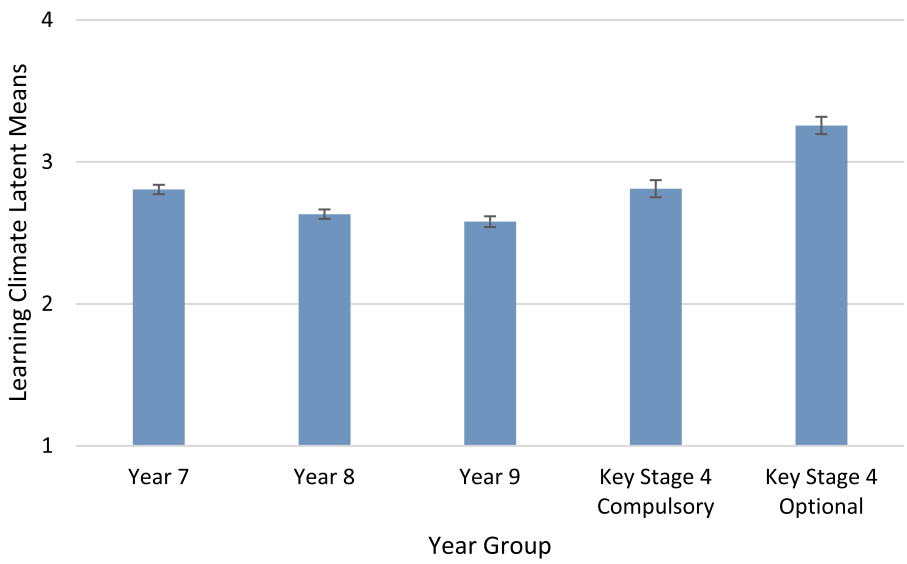

Figure 4. Latent means for learning climate as a function of year group.

Note. Error bars represent standard errors.

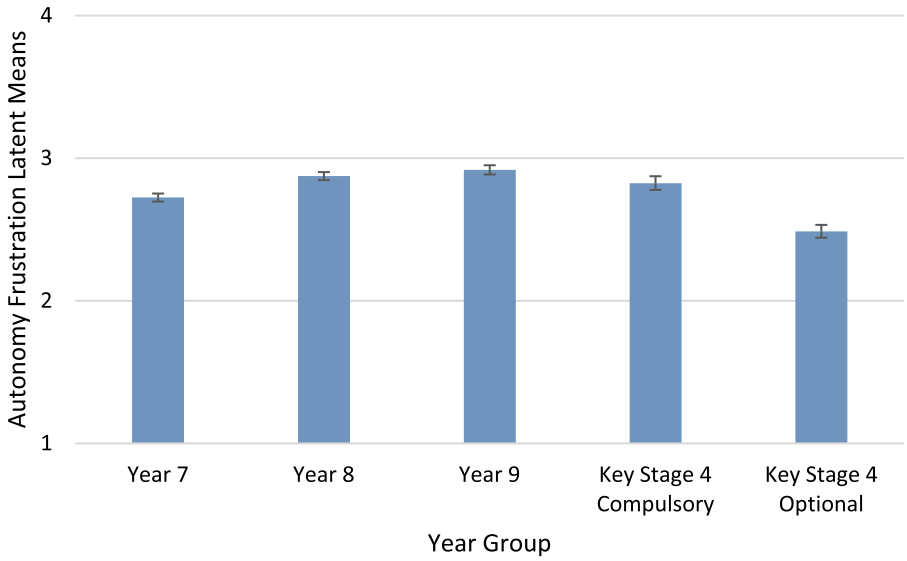

Figure 5. Latent means for autonomy frustration as a function of year group.
Note. Error bars represent standard errors.

study had a higher mean than that of Group Years 8 and 9, but it did not differ significantly from that of Year 7. For the Key Stage 4 Optional group, the mean was significantly higher than all the other groups.

Figure 5 shows the means of autonomy frustration across year groups. Unlike in the case of the learning climate, as learners progressed from Year 7 to Year 9, they were more autonomy-frustrated. Learners in the Key Stage 4 Compulsory group were on average less autonomy-frustrated than those in Years 8 and 9, but they were still more frustrated than their Year 7 peers. Those in the Key Stage 4

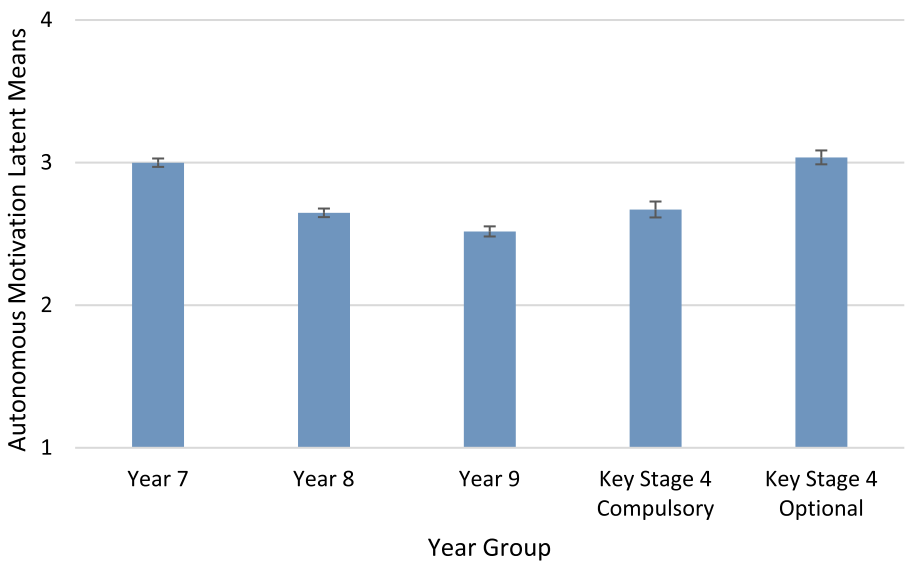

Figure 6. Latent means for autonomous motivation as a function of year group.
Note. Error bars represent standard errors

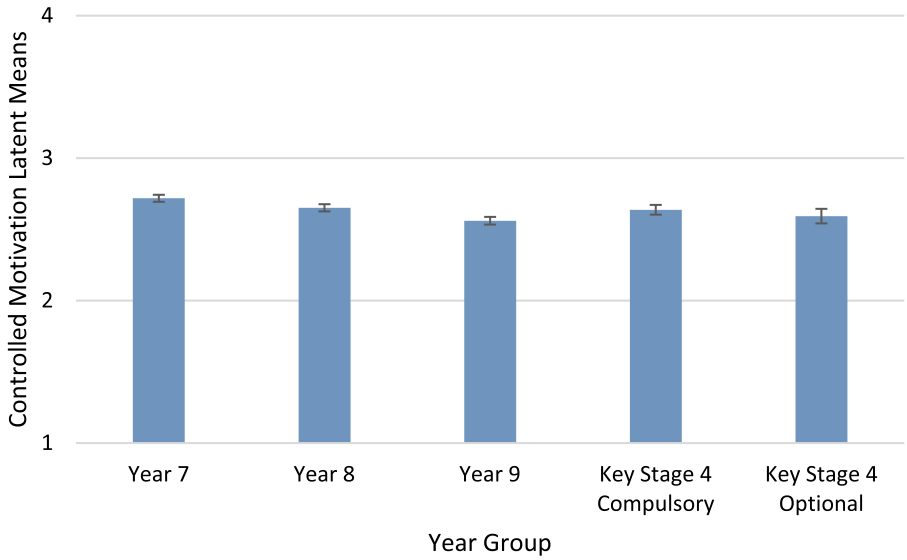

Figure 7. Latent means for controlled motivation as a function of year group.
Note. Error bars represent standard errors.

Optional group experienced the least level of autonomy frustration compared with the other four groups.

As for learners' autonomous motivational orientation, the Key Stage 4 Compulsory group showed a higher level of autonomous motivation than Group Year 8 and 9, but when compared with Year 7 learners, their autonomous motivation level was still lower. The Key Stage 4 Optional group had a similar level of autonomous motivation to that of Group Year 7, but their level of autonomous motivation was higher than those in Year 8, 9 and the Key Stage 4 Compulsory group (see Figure 6).

Finally, learners' level of controlled motivation also decreased across Year 7 to Year 9. The Key Stage 4 Compulsory group learners' level of controlled motivation was lower than that of Year 7 and Year 8 but higher than that of Year 9. Learners in the Key Stage 4 Optional group had a similar level of controlled motivation as that of Year 9 (see Figure 7).[3]

Discussion

The present study was driven by (a) the decline in secondary school foreign language learning in the UK and many other anglophone countries (e.g. All-Party Parliamentary Group on Modern Languages 2019; Lanvers et al. 2018); (b) the lack of cross-year comparison of language learning motivation which could document when learners' motivation begins to drop; and (c) an under-representation of adolescent anglophone learners of other languages in language motivation theory and research (Oga-Baldwin et al. 2017; Oga-Baldwin and Nakata 2017). Two major study objectives were established to address these gaps. The first was to establish a model, grounded in SDT, that depicts the association between learning climate, students' sense of autonomy, and language learning motivation among secondary school learners in England, and to see whether this model holds for learners from different year groups. The second was to see how perceptions of support in the learning climate, a sense of autonomy and language learning motivation differ across learners at different points in their secondary school years, with a particular interest in how choice and curricular structure might impact motivation.

We found that regardless of which year group the learners were from, if they perceived their language teacher as autonomy-supportive, they reported less autonomy frustration and were

more likely to report a more autonomous form of language learning motivation. This result echoed previous findings about how students' perceptions of need support from their learning context may affect their psychological need satisfaction and in turn impact their language learning motivation (e.g. Davis 2018; Dincer et al. 2019; Hu and Zhang 2017; Joe et al. 2017; McEown et al. 2014; Noels 2003; Noels et al. 1999; Oga-Baldwin and Nakata 2017; Vibulphol 2016). More importantly, we found that the association transcended year groups, which most previous studies have not explicitly discussed, suggesting a possible way of addressing the decline in motivation found across year groups in both this and other studies. We can also use this finding to consider ways of addressing the decline in take-up of the subject in the post-compulsory phase, focusing on the role of the teacher in supporting students' basic psychological needs. This strategy is likely to require a systemic shift in focus away from exams and performance measures to a clearer message about the value of languages for communication and personal development.

Regarding the second research objective, although the associations between variables were consistent across levels, the year groups differed in terms of students' perceptions of their learning climate, their sense of autonomy, and their language learning motivation. Generally speaking, students in higher year groups perceived their learning environment as less autonomy-supportive than their peers who were in lower year groups. As a result, they began to feel more autonomy-frustrated and thus show less autonomous forms of motivation. This finding is consistent with existing literature, as previous longitudinal studies found that learners' intrinsic motivation tends to decline as they move to higher year groups (e.g. Carreira 2006; Otis et al. 2005).

We suggest that the variations identified between year groups can be accounted for by the 'novelty' of the beginning of a phase of education (the start of secondary school in Year 7, and the start of GCSE courses in Year 10) which decreases as students progress through the phase over time. Indeed, in previous studies, motivation (conceptualised as self-efficacy and attitudes towards the language learned) was found to increase during the transition between primary and secondary school – as students begin the phase (Graham et al. 2016; see also Courtney et al. 2017). Previous work in an English context has suggested that the type of classwork that forms the MFL curriculum may have a demotivating effect, being too focused on accuracy and task completion rather than on communication (Courtney 2014). An increasing focus on assessment and measurement of achievement as students progress through secondary school may play a role, impacting students' basic psychological need for competence (Archambault et al. 2010; Courtney et al. 2017; Spinath and Steinmayr 2008), although this was not measured in the present study. We further suggest that for older learners, impending high-stakes exams act in tension with intrinsic enjoyment, contributing to the decline in scores seen in Year 11, even for those who have chosen the subject (see Ryan and Deci 2017).

One key finding of the present study relates to choice. Previous work has shown the importance of choice in anglophone contexts (e.g. Noels 2003; Noels et al. 1999), including England (Parrish and Lanvers 2019). Likewise the present study found that curriculum policy providing educational options around language learning was strongly associated with student motivation, such that those who could and did opt for MFL experienced greater autonomous motivation, less controlled motivation, less autonomy frustration, more autonomy satisfaction and a more autonomy-supportive learning climate. We thus suggest that where possible, schools should develop or retain policies which allow students to choose whether or not to take a language in the post-compulsory phase, but recognise that work must be done to encourage students to see the personal value of the subject, in a way which supports the making of autonomous choices in order to encourage students to opt for the subject of their own volition (Parrish and Lanvers 2019; Taylor and Marsden 2014). With regards to perceived autonomy support, teachers should be encouraged to explicitly engage in perspective-taking behaviours during teaching, and provide rationales for tasks and learning which allow students to connect activities to their own personal values and goals (Taylor and Marsden 2014; Vansteenskiste et al. 2018).

Caution must be taken with the interpretation of these findings, however, as the dichotomous distinction between 'optional' and 'compulsory' language learning hides further heterogeneity. Although the 'optional' group contains only students who chose to take a language at GCSE, and

can therefore be presumed to be relatively motivated to study the subject, the 'compulsory' group includes both students who would have taken the subject had they been given the choice, and who thus might have more in common with their peers in the 'optional' group, and students who would have dropped the subject had they been able. Students in these two groups within a group are likely therefore to feel different levels of need frustration and satisfaction, meaning that there is likely to be a level of within-group variability. By adding a question regarding students' inclination to study the subject as well as a choice question in future studies, this variability could be unpicked and a clearer picture of differences in motivation and need satisfaction between those students who are doing what they have or would have chosen, and those who are not, could be established.

Limitations of the present study and future directions for research

The complexities of the English and wider UK context mean that there is scope for further SDT-informed investigation of language learner motivation. Although the overall sample size was large, the number of students who had a choice about taking a language was small. Given the differences identified between those who had a choice and those who did not in Key Stage 4, and in light of previous findings (Parrish 2020; Parrish and Lanvers 2019), future work should focus further on the impact of choice on both need satisfaction and motivation. In further understanding the context, it might also be fruitful to establish whether those who did not have a choice would have continued with the subject in the post-compulsory phase, or not, as well as why those who chose the subject did so. Exploring the extent to which reasons tend towards the controlled (for example, instrumental reasons such as accessing careers) or autonomous (for example, enjoyment) alongside student motivation and perceptions of need satisfaction may help deepen an understanding of the 'crisis' facing modern foreign languages in English schools.

The present study focused on autonomy, but SDT posits two further needs that could be relevant for explaining year group differences in motivation. Particularly given the way that language learning is considered a school subject like any other in the English school context (Graham and Santos 2015), we predict that the satisfaction and frustration of both autonomy and competence will also play an important role in student motivation (Noels et al. 2019b; Oga-Baldwin et al. 2017; Reeve 2012), emphasising the role of the teacher. In addition, we suggest that future work should compare school language learning with other subjects, in order to establish to what extent to which the findings seen here reflect a general trend and/or are specific to language learning.

Conclusion

In creating a learning environment that supports English school students' self-determined motivation in their modern foreign language classes, both a positive learning climate and autonomy supportive teacher behaviour appear to be key. In a context where choice is tied up with a complex policy background, and where language learning is but one of many subjects on the curriculum, encouraging take-up in the post-compulsory phase is thus likely to be heavily dependent on the creation of an autonomy-supportive environment. This study highlights the importance of perceptions of teacher support in students' motivation; a factor which is often lost in the desire to promote the instrumental benefits of the subject. It must not be forgotten that it is not 'societies' which learn languages, but people, with their own personal and complex motivations.

Finally, we must recognise that motivation is not uniform across year groups and that age and progression through phases of education would seem to have an important impact. These findings highlight the importance of further research to explore how and why these differences occur; whether due to developmental changes during adolescence, teachers changing their pedagogical approaches according to the age of the students and the proximity of exams, and/or changes to curriculum policy in line with changing exam specifications or the demands of school performance measures. By providing a better understanding these different contextual influences

on language learner motivation, not only would such research provide more insights on a theoretical level, it would also set the direction for creating more personally relevant learning environments for students, helping to promote higher levels of self-determination and autonomy for students with a subsequent effect on uptake and continuation of language courses.

Notes

1. See https://www.britishcouncil.org/search?search_api_views_fulltext=Language+Trends for annual reports chronicling this trend
2. A fourth category, integrated regulation, may be included when working with adults (Ryan and Deci, 2017; Sheldon et al, 2017)
3. We have also compared the observed means of different motivational orientations as a function of year group and found that the pattern was similar to that of the latent variable mean comparison.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix: Sample questionnaire items

Adapted from the BPNSFS (Chen et al. 2015)

How true are these things for you?

Most of the things I do in language lessons I feel like 'I have to'
I feel forced to do many things I wouldn't choose to do in language lessons.
I feel pressured to do too many things in language lessons.

Adapted from the LCQ (Williams and Deci 1996)

How much do you agree with these things?

I feel that my languages teacher provides me choices and options.
I feel understood by my languages teacher.
My languages teacher has confidence in my ability to do well in the subject.
My languages teacher encourages me to ask questions.
My languages teacher listens to how I would like to do things.
My languages teacher tries to understand how I see things before suggesting a new way to do things.

Adapted from the SRQ-A (Ryan and Connell 1989)

Why do you do your languages *homework*?

Because I want the teacher to think I'm a good student.
Because I'll get in trouble if I don't.
Because it's fun.
Because I will feel bad about myself if I don't do it.
I don't normally do it, it's a waste of time.
Because I want to understand the subject.
Because that's what I'm supposed to do.
Because I enjoy doing my homework.
Because it's important to me to do my homework.
I don't know, I don't see the point.