The relationship of emotions, motivation and language learning autonomy: Differences in Hungarian secondary schools

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ABSTRACT: The investigation of contextual variations in the role of individual difference variables is one of the most important research aims in foreign language pedagogy, especially in teaching environments where there are fluctuations in teaching efficiency. Thus, in our study we aimed 1) to show the ways various emotions, motivational variables, and self-efficacy beliefs relate to language learning autonomy; and 2) to explore the extent to which these influences are context independent, that is, equally important across schools. To achieve these aims, we designed a nation-wide quantitative study in Hungary that included students (N = 1,152) from 11 secondary schools across the country through systematic quota sampling. The scales included in our standardized questionnaire were analysed with multivariate statistical techniques. Our analysis focused on school-level differences, and the main results show that, concerning learner autonomy, the only association that seems to be significant across each school is students' motivation, while the role of the other scales is limited to some of the schools. Based on our results, we suggest implications for teachers and researchers alike.
Keywords: individual differences, learner autonomy, motivation, self-efficacy beliefs, emotions

El impacto de las emociones y la motivación en la autonomía del aprendizaje de idiomas: Diferencias en las escuelas secundarias

RESUMEN: La investigación de las variaciones contextuales en el papel de las variables de diferencia individual es uno de los objetivos de investigación más importantes en la pedagogía de lenguas extranjeras, especialmente en entornos de enseñanza donde hay fluctuaciones en la eficiencia de la enseñanza. Por lo tanto, en nuestro estudio nos propusimos 1) mostrar las formas en que diversas emociones, variables motivacionales y creencias de autoeficacia impactan en la autonomía del aprendizaje de idiomas; y 2) explorar hasta qué punto estas influencias son independientes del contexto, es decir, igualmente importantes en todas las

escuelas. Para cumplir estos objetivos, diseñamos un estudio cuantitativo a escala nacional en Hungría que incluyó a estudiantes (N = 1.152) de 11 escuelas secundarias de todo el país mediante un muestreo sistemático por cuotas. Las escalas de nuestro cuestionario estandarizado se analizaron con técnicas estadísticas multivariantes. Nuestro análisis se centró en las diferencias a nivel de escuela y los principales resultados muestran que, en lo que respecta a la autonomía del alumno, el único impacto que parece ser significativo en todas las escuelas es la motivación de los estudiantes, mientras que el papel de las demás escalas se limita a algunos de las escuelas. Basándonos en nuestros resultados, sugerimos implicaciones tanto para los profesores como para los investigadores.
Palabras clave: diferencias individuales, autonomía del alumno, motivación, creencias de autoeficacia, emociones

1. Introduction

The aim of this study was to explore the relationship of various individual differences (IDs), including motivation, emotions and students' autonomous learning behaviours. The investigation of autonomy is important in contexts like Hungary, where the quality of classroom teaching may fluctuate (Öveges & Csizér, 2018). In addition, Öveges and Csizér (2018) found that foreign language teaching is rather teacher-centred in Hungarian primary and secondary education, and it is hardly ever considered in what ways students use English outside the classroom unlike what Henry and his colleagues (Henry et al., 2019) found in various Swedish schools. As for the association of ID variables with students' autonomous learning behaviour, we have considered carefully what to include in our current study. Based on Ryan's (2019) suggestions, we found it important to map the role of different ID variables. We decided to collect data on students' motivation (Dörnyei & Ushioda, 2021), as motivation has been long seen as a defining element of successful learning, and language learning emotions (Pekrun, 2014), since researchers working within the framework of positive psychology are increasingly emphasising the important role of affect when learning a second or foreign language (MacIntyre et al., 2016). Finally, self-efficacy beliefs (Bandura, 1986; Piniel & Csizér, 2013, 2015) were selected to be included in our study because Öveges and Csizér (2018) found that in the Hungarian context success was often measured by passing various language exams, which might contribute to low levels of self-efficacy beliefs when learners start to equate language knowledge with error-free language use.

We are aware of the fact that large-scale quantitative studies, such as the present one, may overlook differences among students and even contexts. Therefore, we have focused on school-level differences, or what The Douglas Fir Group (2016) has labelled the meso-level of language learning. Sampling was done in a way that each school represents a unique subsample (*n* around 100), and the analysis considered school-related differences.

2. Literature review

Learner autonomy, which in its broadest sense encompasses learners' capacity to take responsibility for their own learning (Little, 1999), has been positively linked with language achievement in different studies (Little et al., 2017; Tilfarlioglu & Ciftci, 2011), so claiming that learner autonomy is an important ingredient of language learning success appears

to be a safe assumption. There are two main reasons why autonomy can be considered crucial in foreign language settings, where instructed language acquisition mainly happens in classrooms. First, in foreign language settings language input is usually limited to the language classroom unless the learner seeks out extra opportunities to get into contact with the target language. Of course, the lingua franca status of English in today's world means that contact opportunities with English are increasingly hard to avoid (Dewey, 2007), but research shows that input does not tend to become intake without noticing (Schmidt, 2001), which presupposes special awareness on learners' part (Benson, 2001). Second, since implicit learning processes are thought to play a pivotal role in language acquisition, the time spent learning the language in the classroom is simply not enough, and extra practice opportunities are needed if learners want to turn what they have been taught in their language class into usable knowledge (Long, 2014).

Although based on theoretical considerations learner autonomy appears to be a useful quality if someone aims to become a successful learner and eventually user of the target language (Illés, 2019), a nation-wide representative study conducted in Hungary does not paint a rosy picture of the Hungarian educational system is this regard. This cross-sectional survey showed that 7th graders exhibited higher levels of autonomy than 11th graders, a finding that suggested that younger learners were more likely to take responsibility for their learning than their older peers (Albert at al., 2018). This raises the question whether the poor self-reported foreign language knowledge of Hungarians demonstrated by European surveys might be linked to this finding (European Statistics, 2016), in a way that the autonomy levels decreasing from primary to secondary school might be identified as a partial cause of the low attainment levels. Another interesting question that might be pondered about autonomy is how this learner characteristics might be linked to other IDs which are also known to influence language learning success, such as motivation, self-efficacy beliefs, or language learning related emotions. Therefore, after providing a short theoretical overview of each of the listed constructs, we are going to review empirical studies exploring their links with autonomy.

Second language (L2) motivation is an oft-investigated, complex construct that, by incorporating students' effort and persistence, may be the most important variable shaping long-term success in L2 learning and achievement (Dörnyei & Ushioda, 2021; Lamb et al., 2019). Theoretical advancement in the field of L2 motivation was documented by Boo and her colleagues (Boo et al., 2016). In our study, we opted to adopt Dörnyei's (2005) L2 Motivational Self System (L2MSS) theory as it was used in previous Hungarian studies, and the Hungarian instrument showed good psychometric properties (Csizér, 2020). The main components of L2MSS include students' ideal and ought-to L2 selves as well as L2 learning experience. The self-related components juxtapose the way students imagine themselves as proficient users of the L2 in the future (ideal L2 self) and the external expectations that they think they have to abide by (ought-to L2 selves), while L2 learning experience incorporates attitudes toward classroom processes. The investigation of the three components have received various emphasis in research studies (cf.: Csizér, 2019) with the ideal L2 self being found as markedly important in contributing to students' effort (e.g., Al-Hoorie, 2018). The role of the ought-to L2 self is seen as more controversial both in terms of its role in shaping motivation directly (Csizér, 2019) and its conceptual content (Thompson, 2017), while L2

learning experience has remained a somewhat neglected element of the model (Csizér & Kálmán, 2019) despite its potential importance in contexts where classroom teaching dominates learning processes (Csizér, 2020). Apart from components of the L2MSS, contact experiences, or rather learners' opinions about the importance of such experiences, have also been identified as important determinants of motivated learner behaviour in the Hungarian context (Csizér & Kormos 2008, 2009).

There are researchers who have hypothesized the existence of a link between learner autonomy and language learning motivation early on based on theoretical grounds, initially proposing that autonomy is likely to lead to motivation (Deci & Ryan, 1985; Dickinson, 1995). Empirical evidence for the relationship between the two constructs was provided by Spratt et al. (2002), who found that in certain cases motivation might be the predecessor of autonomy. Liu's (2015) study also offered evidence for connections between Taiwanese students' motivation and autonomy. The relationship between motivation and autonomy has also been investigated in the Hungarian context, revealing a strong correlation between their dimensions (Csizér & Kormos, 2012, 2014). Moreover, students' motivated learning behaviour was shown to contribute their autonomous learning behaviour (Kormos & Csizér, 2014).

Although not as widely investigated as motivation, it is easy to see why self-efficacy beliefs, defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391), are increasingly studied as an important contributor of language learning success. Learners are not likely to carry out actions which are needed to acquire a foreign language unless they are convinced that they are capable of executing them. Indeed, there is empirical evidence linking self-efficacy with language achievement (Hsieh & Kang, 2010; Mills et al., 2007) and different aspects of language proficiency (Mills et al., 2006). In the Hungarian context, the relationship between self-efficacy beliefs, motivation and language anxiety has been investigated by Piniel and Csizér (2013), who demonstrated the effect of self-efficacy beliefs both on learners' motivated learning behaviour and their level of language anxiety and showed that self-efficacy beliefs themselves are shaped by language learning experience. As regards self-efficacy's relationship with autonomy, Tilfarlioglu and Ciftci (2011) found a high correlation between university students' self-efficacy beliefs and autonomy, and the same relationship has been confirmed in connection with both intermediate- and advanced-level learners in Iran (Mojoudi & Tabatabaei, 2014). Moreover, because of the conceptual proximity of the two constructs, Ruelens (2019) made the suggestion that learners' autonomy should partly be measured with the help of statements focusing on self-efficacy since the specificity of these items usually makes them easier to answer.

Finally, there seems to be no doubt that language learning is just as much influenced by affective factors as by cognitive ones (Swain, 2013); therefore, the contribution of emotions to second or foreign language acquisition should not be ignored either. This should not only be true for anxiety, whose detrimental effects on language learning are well-documented (Horwitz et al., 1986; MacIntyre & Gardner, 1991). Since the broaden and build theory claims that positive emotions fulfil their evolutionary role by encouraging exploration and the simultaneous building of resources (Fredrickson, 2003, 2008), positive emotions should be targeted as well. Indeed, there is now a substantial body of research on language learning enjoyment (Botes et al., 2022; Dewaele & MacIntyre, 2014), and evidence on the

positive effects of positive emotions on language achievements is accumulating (Dewaele & Alfawzan, 2018; Jin & Zhang, 2021; Pan et al., 2023; Shao et al., 2020). Empirical findings also support the motivating role of positive emotions (MacIntyre & Vincze, 2017). One of the studies conducted in Hungary in connection with emotions has attempted to link English major university students' emotions to the different skill areas as well as different contexts of language learning and use. It was found that anxiety was typical of in-class instruction while enjoyment was more characteristic of out-of-class contexts (Piniel & Albert, 2018). Moreover, a nation-wide representative study involving learners in public education found that learners in the 11th grade reported lower level of enjoyment and higher levels of boredom and apathy than those in the 7th grade (Albert et al., 2018), which unfortunately indicates negative trends over the years. Concerning empirical investigations that have attempted to link autonomy with emotions, in her qualitative study Beseghi (2018) found an increase in positive emotions as students became more autonomous. Similarly, Resnik and Dewaele (2023) in a large-scale questionnaire study found a positive link between autonomy and enjoyment, and a negative one between autonomy and anxiety in both offline and online language learning contexts.

Based on the reviewed theories and the relevant empirical evidence, we have reasons to argue that the ID constructs selected by us should be related to autonomy in the school contexts that we set out to explore. However, when it comes to school-related differences, the studies we are aware of map differences among different school levels rather than different school as institutions. For example, Albert et al. (2018) showed how motivation, autonomy and emotions differed between primary and secondary school students (i.e., aged 13 and 17), while Kim and Kim (2016) looked at how demotivation differed among students attending school at different levels by analysing 19 studies carried out in South Korea. Nevertheless, we do not know of studies that would have compared students in similar grades but different schools, which is the main focus of our current investigation.

3. Methods

3.1. Context, research question and design of the study

Hungary has a three-tiered education system, where primary school typically begins at the age of 6, and primary education can span four, six, or eight years. Before entering secondary education, pupils need to take centralized exams which are quite competitive, so students may leave primary education after four or six years or stay on for eight. Consequently, secondary education lasts either eight, six, or four years, with an additional optional year dedicated to intensive language learning between primary and secondary education. The fact that pupils get into their secondary schools based on competitive entrance exams creates considerable differences between the secondary schools themselves. Taking into account the above-described contextual characteristics, we set out to answer the following research question:

RQ: What differences can be found in Hungarian secondary schools concerning the relationships among motivation- and emotion-related scales as well as students' autonomous learning behaviour?

As the research question involves exploration of the association among scales, we needed to design a large-scale nationwide study that used a standardized questionnaire, yielding data that we could analyse statistically.

3.2. Population, sampling and sample

As explained above, despite the variations in the type of secondary schools, we aimed to include schools that had classes in the 8+4 system. We stratified our sample by taking into account three distinct geographical regions in Hungary: the capital city, Western Hungary and Eastern Hungary. These areas differ in GDP figures and also in access to services in a way that the Central part of Hungary including the capital is the richest region, while the Eastern part of the country is the poorest economically (OECD, 2020). Altogether 11 schools were selected: three from the capital city and four from each additional regions. Once the schools were included in the sample, we made sure that around 100 students from each school filled in our questionnaire in order to have school-related subsamples with adequate sample sizes. As a result, our database included 1,152 secondary school students (467 boys, 682 girls, 3 with missing data for gender). As students attended grade 9-12, their ages ranged between 14 and 20 (M = 16, SD = 1.22, 3 missing). All our participants were speakers of Hungarian as a first language, and they were learning English at school at the time of the data collection. Their self-reported level of English was between B2 and A2, with an average starting age of 9.2 years (SD = 3.1) of learning the language.

3.3. Instrument

The instrument used for data collection contained 16 scales: one scale measuring autonomous learning behaviour (Benson, 2011, 2013), one scale investigating self-efficacy beliefs (Piniel & Csizér, 2013; Albert et al, 2018), five scales tapping motivation-related constructs (Csizér & Kormos, 2012; Dörnyei, 2005, 2009; Kormos & Csizér, 2008), and nine scales exploring emotions related to classroom language learning (Albert et al., 2018; Pekrun, 2014). A brief description of the scales with sample items can be found below. The full instrument in both English and Hungarian can be found at the Iris Database (https://www.iris-database.org).

1. *Autonomous language learning behaviour* (6 items): reflects the extent to which participants are able to learn and practice English on their own (e.g., *I spend more time practicing elements in English that I find difficult to understand*).
2. *Self-efficacy beliefs* (6 items): reflects learners' beliefs about their abilities to successfully learn a foreign language (e.g., *I believe that I can do the speaking tasks we are given during English lessons*).
3. *Motivated learning behaviour* (5 items): signals the extent to which learners are ready to invest energy in their foreign language learning (e.g., *I can honestly say that I do everything I can to master the English language*).
4. *Ideal L2 self* (5 items): explores participants' vision about their future language use (e.g., *When I think of my future life, I imagine myself using English regularly*).

5. *Ought-to L2 self* (6 items): reflects what participants perceive as expectations in terms of their own language learning (e.g., *For all the people around me, English proficiency is an important part of general knowledge*).
6. *Language learning experiences* (4 items): signals participants' positive experiences concerning learning English (e.g., *I like the activities that we do in English lessons. I have a good time during English classes*).
7. *Perceived importance of contact* (5 items): reflects the extent to which learners find it important to use English with native or non-native speakers outside the language classroom (e.g., *I believe it is good to speak to foreigners because I can get to know their ways of speaking, their accents and vocabulary*).
8. *Enjoyment* (6 items): refers to learners' feelings of enjoyment while taking part in the activities and topics during language lessons (e.g., *I enjoy the topics that we discuss in English lessons*).
8. *Hope* (6 items): measures how hopeful learners feel about achieving success in learning English at school (e.g., *I feel hopeful about overcoming challenges in the process of learning English*).
10. *Pride* (5 items): taps into the extent to which learners feel proud of their achievements in language learning (e.g., *I am proud of my achievements in language learning).*
11. *Curiosity* (6 items): measures how curious and interested learners feel about learning English, and the topics and activities they encounter during the English lessons (e.g., *In English lessons, we deal with topics that arouse my curiosity*).
12. *Anxiety* (5 items): taps into learners' feelings of inhibition experienced in connection with English language activities in school lessons (e.g., *I get frustrated if I can't understand an English-language text*).
13. *Boredom* (5 items): measures the extent to which learners feel bored during the activities and by the topics in the English language lessons (e.g., *I get bored by the activities in English lessons*).
14. *Apathy* (4 items): refers to learners' feeling of hopelessness related to success in English language learning in school (e.g., *I feel hopeless about ever mastering English in the school*).
15. *Confusion* (5 items): measures the extent to which learners feel confused about language learning in class (e.g., *Sometimes I feel confused because I don't understand what is happening in the English lessons*).
16. *Shame* (5 items): taps into learners' feelings of shame about their achievement and actions during English lessons (e.g., *I feel ashamed if I can't answer a question during our English lessons*).

3.4. Data collection and data analysis

In the first phase of the project in 2018, we developed our questionnaire that was intended to be used in the main study via two rounds of empirical validation (Albert et al., 2021; Csizér et al., 2021). We started collecting data for our main study in the autumn term of the 2019/2020 school year and finished at the end of the autumn semester of the 2020/2021 school year. Data collection had to be switched to online form in March 2020

due to the COVID-19 pandemic and the resulting lockdown of schools. The paper-and-pencil and online versions of the questionnaire were identical.

The ethical aspects of our study were taken into careful consideration. We actively requested consent to involve students in our research and collected data anonymously, ensuring that no personal information was recorded. Students were given the option to participate voluntarily, and they had the freedom to choose not to answer any questions in both the paper-and-pencil and online questionnaire formats.

The steps of data analysis for the purpose of this study are in line with our research question. First of all, Cronbach alpha values were calculated to establish the reliability of the scales; these results are presented in Table 1 in the results and discussion section along with the findings of the ANOVA analyses calculated for each scale across the different schools. Due to space limitations, we decided not to report the mean values of every single school, but we included the results of the Duncan post-hoc tests for all the investigated scales in Table 2. In order to answer the research question guiding our study, we ran multiple linear regression analyses separately for each school; these results are presented jointly in Table 3 to make the comparison across schools easier.

4. Results and discussion

4.1. The descriptive results of the scales in the analysis

Before the analysis, we checked the internal reliability of each scale, and as shown in Table 1, the Cronbach's alpha values all exceed the minimally required 0.6 (Dörnyei, 2007) indicating that each scale is internally reliable for the purpose of the current analysis. In terms of the descriptive statistics, we can see some reassuring tendencies that indicate that students have a fairly high level (*M* around four on a five-point scale) of motivated learning behaviour, self-efficacy, ought-to L2 self, and L2 learning experience, and they have exceptionally strong ideal L2 selves showing that they see themselves as proficient users of English in the future. Still, their autonomous learning behaviour is somewhat lower (*M* = 3.58 and *SD* = 0.79), which illustrates that a high level of motivated learning behaviour does not automatically ensure a high level of autonomy in the Hungarian context. In addition, it can be seen that students attach a fairly high level of importance to have opportunities to use English outside the classroom (*M* = 4.10, *SD* = 0.76) that indicates that they see the practical importance of English in Hungary. Finally, it is reassuring to see that students scored higher on scales measuring positive emotions than negative ones.

When descriptive results are compared across the 11 schools, we can see that, apart from shame, each scale shows significant school-related variations (*F* values in Table 1 are significant). This is important for the current study because it lends further support to the fact that investigations focusing on the meso-level (i.e., schools) constitute a possibly important research direction.

Table 1. *Results of the descriptive statistical analysis*

Scales	*M*	*SD*	*Cr. Alpha*	*F-value**
Autonomous learning behaviour	3.58	0.79	0.82	7.74*
Motivated learning behaviour	3.94	0.75	0.82	4.83*
Ideal L2 self	4.51	0.66	0.86	3.54*
Ought-to L2 self	3.93	0.73	0.74	3.37*
L2 learning experience	4.01	0.82	0.90	21.99*
Perceived importance of contact	4.10	0.76	0.76	3.47*
L2 self-efficacy	4.04	0.83	0.93	7.01*
Hope	4.32	0.60	0.78	8.15*
Enjoyment	4.02	0.66	0.78	8.75*
Pride	3.84	0.93	0.88	7.84*
Curiosity	3.50	0.78	0.83	11.20*
Shame	2.72	0.98	0.80	.59
Anxiety	2.64	0.82	0.69	3.02*
Confusion	2.56	0.87	0.78	5.13*
Boredom	2.05	0.77	0.79	12.13*
Apathy	1.90	0.87	0.77	12.27*

Note: * F-value of analysis of variance significant at the level of 5%

A closer analysis of the post-hoc tests presented in Table 2 demonstrates that even though the 11 schools are located in economically quite different regions of the country, the regional differences do not seem to have a decisive role in determining what students experience and how they feel in that particular school. For example, out of the four schools in the Eastern part of Hungary E4 seems to have the most favourable attributes: students attending this school reported being very autonomous, motivated, self-efficacious and having high levels of positive emotions with moderate levels of negative ones. By contrast, E1, which is located in the same region, has less autonomous students, with lower motivational attributes and the lowest self-efficacy in the sample, coupled with low levels of positive emotions and high levels of negative ones.

Table 2. *Results of the post-hoc analysis*

Scales	*C1*	*C2*	*C3*	*W1*	*W2*	*W3*	*W4*	*E1*	*E2*	*E3*	*E4*
Autonomous learning behaviour	5-6	2-3	6	2-3-4	2-3	2-3-4	2-3-4	4-5-6	3-4-5	2	1
Motivated learning behaviour	3-4	1-2	4	1-2-3	1	1-2	2-3-4	2-3-4	1-2-3	1	1
Ideal L2 self	2-3-4-5	1	3-4-5	1-2-3	1-2-3	2-3-4	4-5	5	1-2-3	1-2-3	1-2
Ought-to L2 self	1	1	1-2-3	1-2-3	1-2	1-2-3	2-3	3	1	3	1
L2 learning experience	7	5	5	1-2	4-5	2-3	1-2-3	6	3-4	1	2-3
Perceived importance of contact	1-2-3	1-2-3	4	2-3-4	1-2-3	1	1-2-3	3-4	1-2-3	1-2	1
L2 self-efficacy	4	1-2-3	3-4	2-3-4	2-3-4	1-2-3	2-3-4	5	1-2	2-3-4	1
Hope	3-4	1-2-3	2-3-4	1-2-3	1-2-3-4	1	4	5	1-2	1-2	1
Enjoyment	4	3	4	2-3	2-3	1-2	2-3	4	2-3	1	1-2-3
Pride	4	2	3-4	2	2	1-2	2-3	4	1.2	1-2	1
Curiosity	1-2	2-3	2	2-3	2	3	2-3	1	2-3	2	2-3
Anxiety	1-2	2-3	2	2-3	2	3	2-3	1	2-3	2	2-3
Confusion	2	2-3	2-3	2-3	2-3	3	2	1	2-3	2-3	2-3
Boredom	1	2	2-3	4-5	3-4	5	4-5	2	4-5	5	2-3
Apathy	1	2	2-3	4-5	3-4	5	4-5	2	4-5	5	2-3

Note: Numbers indicate the group(s) to which the given mean value was assigned based on the Duncan post-hoc test, 1 signals the group with the highest mean value

4.2. The relationship of the ID variables and autonomous learning behaviour

Table 3 summarizes the results of the regression analysis by each school separately (for correlational results, see Appendix A). One consistent finding is that, regardless of schools, students' motivated learning behaviour affects their autonomous learning behaviour. Looking at the beta values, it is interesting to see that values range from 0.23 to 0.69 indicating that motivated learning behaviour is an antecedent to autonomy, but its actual strength might depend on the school. Irrespective of these differences, these results lend strong support to previous findings suggesting that motivated learning behaviour contributes to learner autonomy (Kormos & Csizér, 2014; Liu, 2015; Spratt et al., 2002).

Second, in about half of the schools, the perceived importance of using English outside the classroom also contributes to students' autonomy in a significant way. Interestingly, none of the schools in Budapest, the capital city with the highest level of international tourism in the country, belong to this group. Although it is quite possible that students from the capital city had actual contact experiences which involved the use of English, this is probably irrelevant, as it has already been shown in previous studies that what really determines the motivating quality of these experiences is the importance learners attach to them (Csizér & Kormos, 2008, 2009). Our findings seem to indicate that the perceived importance of contact and whether they contribute to autonomy might be shaped by school-level processes, since, as shown in Table 2, the mean values for this scale in the six schools where this construct was identified as a significant contributor of autonomy varied considerably.

Third, two emotions stand out as especially important in shaping autonomy: one is enjoyment and the other one is confusion, the latter with a negative beta value. The positive contribution of enjoyment is not surprising in the sense that enjoyment seems to signal a balance between challenges that learners face and their abilities (Dewaele & MacIntyre), a constellation that tends to be intrinsically motivating (Csíkszentmihályi et al., 2005); moreover, Resnik and Dewaele (2023) also found positive correlations between autonomy and enjoyment in both online and offline contexts. Although we are not aware of any previous research examining the relationships between confusion and autonomy, it appears to make sense intuitively that learners in a confused state might be less inclined to take actions on their own.

Finally, self-efficacy needs to be considered as it showed significant results in three different schools. Considering the strength of correlations between autonomy and self-efficacy found in earlier studies (Mojoudi & Tabatabaei, 2014; Tilfarlioglu & Ciftci, 2011), it is somewhat surprising that self-efficacy was revealed to be influential in three schools only. When we examine the self-efficacy levels reported in the three schools in Table 2, it becomes clear that students in E4 reported the strongest self-efficacy beliefs across all schools while self-efficacy levels were rather low in both C1 and C3, suggesting school-level processes once again.

Table 3. *Variance explained by each model and beta values of the scales associated with autonomous learning behaviour*

		Autonomous Learning Behaviour									
	Schools (R^2)	MLB	Contact	Enjoyment	Confusion	Self-efficacy	Boredom	L2 Learning experience	Shame	Anxiety	Ought-to L2 self
Capital city	C1 (0.53)	0.60				0.23					
	C2 (0.62)	0.57		0.39	-0.13		0.19		0.18		
	C3 (0.59)	0.50		0.38		0.22		-0.23			
Western Hungary	W1 (0.63)	0.63	0.24		-0.20						
	W2 (0.54)	0.23	0.37	0.25	-0.22						
	W3 (0.65)	0.69	0.17								
	W4 (0.68)	0.64	0.19		-0.17						
Eastern Hungary	E1 (0.72)	0.59	0.14	0.24							
	E2 (0.50)	0.35	0.22	0.26							
	E3 (0.68)	0.77			-0.16						
		0.60				0.42				0.28	-0.17

Note: $p < 0.05$

It is also informative to look at those scales that were included in the data collection but then failed to contribute to students' autonomous learning behaviour in a direct way. In terms of the motivational scales, the ideal L2 self does not have any direct significant relationship with autonomous learning behaviour. We can hypothesize at this point that its role might be indirect through students' motivated learning behaviour as hypothesized by the

L2MSS theory (Dörnyei, 2005). Concerning the role of emotions, as for positive emotions, only enjoyment stands out as a significant factor, while hope, pride and curiosity do not have direct associations with students' autonomous learning behaviour. It might be hypothesised that similarly to the ideal L2 self, hope, pride or curiosity might exert their influence indirectly, through other variables, but this hypothesis and any alternative ones should be explored in further studies. The role of negative emotions is more varied, as it is only apathy that fails to appear as a significant contributor to autonomy in any of the models, and the contribution of some negative emotions to autonomy is positive. Studies show that the effects of negative emotions on academic achievements seem to be more varied, depending partly on the activating or deactivating nature of the negative emotion (Pekrun et al., 2002). Thus, it is possible that only through careful examination of each school context would it be possible to shed light on their exact role in impacting learner autonomy.

5. Conclusion

Our findings indicate that the participants of our study can be characterized by particularly strong ideal L2 selves, but in comparison, their level of autonomous learning behaviour is lower. Moreover, they tend to report stronger positive emotions in connection with their English language classes than negative ones. Despite these general tendencies, significant differences can be observed among students attending different schools with regard to all of the investigated scales except for shame, which lends support to the meso-level analysis applied in this research.

What we consider as the most important finding of our study is that there appear to be marked differences among schools as far as the role of ID variables on students' autonomous learning behaviour is concerned. We found one scale that does not seem to be contextually dependent, which is students' motivated learning behaviour. This brings us to the logical conclusion that, regardless of context, autonomous learning behaviour will not happen without students being motivated, which support similar results of earlier studies (Kormos & Csizér, 2014; Liu, 2015; Spratt et al., 2002). As regards the rest of the scales, some appear to be influential in several contexts and some appear to have idiosyncratic effects in one context only. This brings us to the most important implication of our study, which is that teachers and researchers should always attempt to contextualize their findings since what appears to be true in general, might be true in slightly different ways in different context. Moreover, important features of the context, in this particular case significant determinants of the school climate, should also be explored in studies targeting the meso-level.

As all studies, ours is also not without limitations. School-level differences are best investigated by mixed-methods studies, in which interviews with students and teachers may shed light on specificities of the school culture that results in the particular quantitative results. In addition, some of the issues explored here warrant longitudinal analysis, which was also outside the scope of the present investigation.

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7. APPENDIX

Appendix A

SCALES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Autonomous learning behaviour (1)	1.00														
Motivated learning behaviour (2)	.75	1.00													
Ideal L2 self (3)	.48	.62	1												
Ought-to L2 self (4)	.21	.34	.52	1											
L2 learning experience (5)	.32	.34	.20	ns	1										
Perceived importance of contact (6)	.51	.51	.45	.29	.23	1									
L2 self-efficacy (7)	.52	.48	.41	.14	.34	.33	1								
Hope (8)	.55	.63	.55	.26	.46	.39	.69	1							
Enjoyment (9)	.59	.59	.39	.14	.74	.48	.48	.61	1						
Pride (10)	.55	.59	.41	.13	.43	.39	.69	.71	.60	1					
Curiosity (11)	.48	.51	.28	.15	.72	.39	.29	.45	.79	.44	1				
Shame (12)	ns	ns	ns	.26	-.11	.09	-.30	-.21	ns	-.21	.06	1			
Anxiety (13)	-.17	-.17	-.11	.17	-.23	ns	-.51	-.38	-.21	-.36	-.10	.66	1		
Confusion (14)	-.31	-.25	-.20	.08	-.22	Ns	-.62	-.46	-.26	-.44	-.10	.46	.65	1	
Boredom (15)	-.29	-.34	-.14	ns	-.69	-.26	-.15	-.29	-.65	-.29	-.74	ns	.15	.11	1
Apathy (16)	-.26	-.30	-.19	ns	-.63	-.19	-.38	-.45	-.55	-.44	-.55	.20	.32	.34	.61

Note: All values are significant at $p < .05$; ns = non-significant result