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Abstract

The aim of this study is to explore whether latent classes representing specific motivational profiles can be found among learners of different foreign languages (L2s) in Finnish comprehensive schools. More specifically, the focus is on whether motivational profiles are different for learning a compulsory foreign language, in this case English, or an optional foreign language, in this case German, French, Russian or Spanish, and if so, how do the classes differ with reference to different dimensions of motivation. The statistically representative sample was over 1 200 answers from ninth-graders at the upper level of comprehensive school. The data were analyzed with latent profile analysis (LPA). The results show that five latent classes representing different motivational profiles can be found: the most motivated, the average motivated, the average motivated with low anxiety, the least motivated and students with high anxiety. There also are clear connections between the particular profile and language being studied.

Keywords: L2 motivation, language learning, foreign languages, latent profile analysis, person-oriented approach

Introduction

By and large Finnish basic education is of high quality and leads to good learning outcomes in international comparisons (e.g. PISA, 2012), and the teachers are proficient due to a well-functioning teacher education and feel respected and valued for their work (National Board of Education [NBE], 2014a; Taajamo, Puhakka, & Välijärvi, 2014). In Finland the European goal of two languages in addition to the mother tongue (see European Council, 1995) has been reached since the late 1970s after the reform of basic education. Finnish basic education includes grades 1 to 9 of which grades 1 to 6 forms the lower level of comprehensive school, and grades 7 to 9 the upper level of comprehensive school. Compulsory education is usually started at the age of 7 years (National Board of Education [NBE], 2014b).

Mother tongue and one foreign language (the so-called A1 language), which usually starts in grade three, are compulsory in basic education in Finland (OPH 2014b). In some schools the foreign language starts already in the first or second grade. Over 90 percent study English as their first foreign language in grade three. Pupils can also choose optional languages in grade four or five (A2 language) and eight or nine (B2 language). Everyone starts to study the compulsory second national language¹, Swedish or Finnish, in the seventh grade (B1 language). English is the most popular first foreign language because in most of the municipalities and schools it is the only option offered at this stage (Kangasvieri et al. 2011). From autumn 2016 the second national language will begin already in the sixth grade (National Board of Education [NBE], 2014c).

Even if there is freedom of choice in language studies, in practice four out of five pupils have studied only English and Swedish or Finnish when they end basic education, which means that the number of pupils choosing optional languages in grade four or five and/or eight or nine has significantly decreased in Finnish schools in the last two decades (Kangasvieri et al. 2011). According to educational statistics (National Board of Education [NBE], 2003; NBE, 2014b), in 1996, almost 37% of the students at the lower level, and nearly 43% at the upper level of comprehensive school chose and studied an optional language. In contrast, in 2012 approximately 27% and 17% of the students made the same choice.

Based on the educational statistics Finnish children and youth do not seem to be as interested in studying foreign languages at school as they were some 20 years ago. Reasons for

¹ Finland is a bilingual country according to the Constitution of Finland (731/1999), and the two national languages are Finnish and Swedish.

this can be found in language education policies and in decisions made on both national and local level by policy-makers, educational authorities, teachers, and parents. However, one of the key factors is the students' own motivation to study foreign languages, as is stated also in policy documents (European Commission, 2007). As Ushioda (2006) argues, L2 motivation has also a political dimension. Decreased language choices/studies might be the result of students' lacking motivation towards learning different L2s, and the inability of current language teaching methods and practices to respond to the motivational needs of students. Therefore, the aim of this study is to inspect the situation from the students' point of view by taking a closer look at their foreign language (L2) motivation.

L2 Motivation Research from Past to Present

The research on L2 motivation is characterized with a wealth of different theories. Here the key concepts relevant to this study are presented with the help of Dörnyei and Ushioda's (2011) classification, who divide past L2 motivation research into three different phases: the social psychological period (1959–1990), the cognitive-situated period (in the 1990s), and the process-oriented period at the turn of the century. Dörnyei and Ushioda (2011) call the current period in L2 motivation research the socio-dynamic period.

Research on L2 motivation started in the 1950s in Canada by Gardner and Lambert (1972), who emphasized the social context in language learning and generated the instrumental and integrative orientation in motivation. In Gardner's (1985) theory L2 motivation consists of motivational intensity or effort, desire to learn the language and attitudes towards learning the language. He has later revised this socio-educational model of motivation and clarified the concept of integrativeness, which has been studied and criticized widely in L2 motivation research (Gardner, 2010).

According to Dörnyei and Ushioda (2011) in the 1990s a more cognitive approach emerged, and research moved to classroom contexts and was impacted by the cognitive theories of mainstream educational psychology. Based on these, new frameworks on L2 motivation were created (Dörnyei, 1994; Williams & Burden, 1997) and research started to focus also on task motivation (e.g. Julkunen, 1989). By the turn of the century researchers started to investigate motivation as a process and motivational change (see Dörnyei & Ótto, 1998) and longitudinal studies on L2 motivation appeared.

One example of such longitudinal studies is the large-scale motivation study carried out in three stages during 1993, 1999, and 2004 in Hungary (Dörnyei, Csizér, & Németh, 2006). At the same time it is one of the few studies concerning several different L2s simultaneously, as the past L2 motivation research has mainly focused on the L2 motivation of students studying one specific foreign language (e.g. English) at a time rather than on comparisons between the learning of different L2s (Dörnyei & Clément, 2001). Throughout their massive study Dörnyei et al. (2006) noticed that students ranked English higher on all L2-specific variables than German, French, Russian and Italian.

Ushioda (2006) and Ushioda and Dörnyei (2009) argue that the field of L2 motivation is being re-theorized, and questions related to self and identity have become more relevant as a consequence of the increasing linguistic and sociocultural diversity in today's globalized world. Following this trend, Dörnyei's (2005, 2009) construct of the L2 motivational self system consists of the ideal L2 self, ought-to L2 self and the L2 learning experience. Here the learner's psychological desire to reduce the discrepancy between current and possible future selves acts as a powerful motivator to learn the language (Ushioda & Dörnyei, 2009).

Ushioda (2013a, 2013b) continues that the interest in L2 motivation has increased due to the impact of global English but also because of local practical concerns in language learning and education. She aptly argues that the status English now has, might affect both students' motivation to learn other foreign languages and education providers will to offer a more diverse language curriculum at schools negatively. Dörnyei and Ushioda (2011) point out that there is no clear reference group, such as a particular culture or community for global English, and therefore it is now seen just as a basic educational skill.

Ushioda (2011) points out, that motivation theory has both in mainstream psychology and in the field of L2 motivation research developed in a positivist cognitive paradigm characterized by psychometric measurement, concentrating rather on the general than on particular learners. The current attempt to find specific L2 motivational types or profiles representing learners with different kinds of motivational characteristics represents the approach to L2 motivation research described by Ushioda above.

Previous Research on L2 Motivational Profiles and Types

Research on students' L2 motivational profiles or types has been carried out before, but these studies are very few in number. For example Csizér and Dörnyei (2005) studied Hungarian

eighth-graders (N=8 593), and the target languages in their study were English, German, French, Italian, and Russian. They collected a large questionnaire data set at two separate time points. The results indicated that four different motivational profiles could be recognized among the students. These profiles differed on the five analyzed motivational dimensions (integrativeness, instrumentality, vitality of the community, attitudes towards L2 speakers, and cultural interest) included in the study, but the profiles were largely similar in the different foreign languages.

Csizér and Dörnyei (2005) interpreted their results in the light of Dörnyei's (2005) L2 Motivational Self System theory. Learners in group 1 scored lowest on all the motivational scales and learners in group 4 had the highest scores indicating a salient ideal L2 self. Learners in the two interim groups, 2 and 3, did not have a strong ideal L2 self, which in group 2 was related to learners' lack of a professional future relevance of the L2, and in group 3 learners' motivation was related to the ought-to L2 self. Concerning the different languages, group 4 was associated with English, and group 1 with Russian.

More recently Papi and Teimouri (2014) studied the motivational types of Iranian secondary school students (N=1 278) learning English. They also applied Dörnyei's (2005) framework of the L2 Motivational Self System in their research. The data were collected with a questionnaire that consisted of ten motivational dimensions: ideal L2 self, ought-to L2 self, L2 learning experience, motivated learning behavior, instrumentality-promotion, instrumentality-prevention, family influence, attitudes to L2 community, cultural interest, and language anxiety. Papi and Teimouri found five different groups that had different motivational, emotional, and linguistic characteristics.

Papi and Teimouri's (2014) found that learners in group 1 had the lowest scores on almost all the motivational factors in the study, and learners in group 2 had a weak ideal L2 self. In group 3 learners had moderate scores on most of the motivational factors. Students in group 4 had a strong ideal L2 self, and group 5 had very high scores on all the motivational variables. Additionally, learners in group 4 had a lower score in L2 anxiety than all the other groups. According to the researchers all these groups except for group 4 had a match in Csizér and Dörnyei's (2005) study.

Earlier L2 Motivation Research in the Finnish Context

L2 motivation research started in Finland in the 1970s (Laine, 1977, 1978). Questionnaire studies on L2 motivation have been executed mainly in the 1990s. Laine and Pihko (1991) studied the

foreign language self concept (FL SC) of ninth-grader students (N=541) learning English as their first foreign language in Eastern and Central Finland. The researchers concluded that the FL SC is a central factor in the students' motivational process. Through cluster analysis they found three different learner types: a group with low achievement and self-esteem, a group with mediocre achievement and some FL SC discrepancy, and a group with high achievement and a strong FL SC.

Julkunen and Borzova (1997) compared the motivation to learn English between Finnish and Russian students, and found five factors in their motivational structure: instrumental, integrative, challenge (related to motivating tasks) and teacher/method motivation and anxiety. They also discovered that Russian students were more motivated on all the motivational components used in the study and experienced less anxiety than Finnish students. Additionally, Finnish students had a better foreign language self-concept, but Russian students a higher ideal self-concept.

Julkunen (1998a, 1998b) carried out a two-part research project among learners of optional A2 languages in Eastern Finland. First, he found that their L2 motivation consisted of five different factors: integrative, communicative, instrumental, and societal motivation, as well as attitude towards speakers of the target language. All these motivational constructs were stronger in English than in Swedish, German, French or Russian. Parents influenced language choices the most, followed by peers, siblings and other relatives. Secondly, he discovered that the classroom level motivation was higher for girls than for boys, and strongest in English compared with the other languages. In addition, students' anxiety level was proved to be quite low. Girls had a higher foreign language self-concept than boys, and learners of English had a higher self-concept than learners of the other languages.

Nikki (1992) studied the reasons behind students' language choices in Finnish primary and secondary education. She found out that in primary education boys chose languages for instrumental reasons whereas girls made the choice based on cognitive factors, such as their own liking for and experiences in languages. In her study Nikki also concluded that French is often studied for affective reasons, such as the beauty of the language, but German and Russian for more instrumental purposes.

A more recent study done by the DIALUKI project (Alderson, Haapakangas, Huhta, Nieminen, & Ullakonoja, 2015) in Finland compared L2 motivation of fourth and eighth graders

and gymnasium students. The results show that fourth graders were more motivated and less anxious to learn English than the older age groups and they scored higher on the scale measuring parental encouragement, whereas eighth graders and gymnasium students scored higher on instrumentality scale. Additionally, the mean for English self-concept decreased with age. Overall, the motivation to learn English was not as strong among the eighth graders as in the other age groups on most of the motivational scales used in the study.

Aim of the Present Study and Research Questions

Although previous Finnish studies on L2 motivation concern the same L2 motivation concepts, theories and foreign languages as the study reported in this article, it has a novel viewpoint: the subpopulations with different motivational profiles among Finnish L2 learners have not been explored yet. Internationally this has been done earlier in the Hungarian (Csizér & Dörnyei, 2005) and Iranian (Papi & Teimouri, 2014) context, so it is of great interest to explore, if same kind of motivational types or profiles can be found also among Finnish comprehensive school students.

Additionally, the aim of the present study is to give a broader view of the L2 motivation of Finnish comprehensive school students in the light of L2 motivational research presented above. This study encompasses several different motivational constructs and dimensions from various theories established and tested during the past phases of L2 motivation research. Furthermore, the impact of the optionality of the language being learned on L2 motivation has not been studied earlier. In this study it was hypothesized that L2 motivation would be stronger in optional languages than in the compulsory language and that motivational profiles would be different for compulsory vs. optional languages. Thus, the research questions of this study are:

1. Are there latent classes representing specific motivational profiles among learners of different foreign languages (L2s) in Finnish comprehensive schools? How do these profiles differ with reference to different dimensions of motivation?
2. Do learners studying a compulsory foreign language differ from learners studying an optional foreign language in terms of their motivational profiles? Are there connections between the languages and profiles?

The data were collected quantitatively with a questionnaire because this study aims at giving a statistically representative picture of the L2 motivation of Finnish comprehensive school students. The representativeness of the data makes the study important from the perspective of

national language education policies. The point of this study is not only to research students' L2 motivation *per se*, but to also have implications for the national language education policies. The results can be used in planning language education, as for example language programs at schools.

Method and Data

The Questionnaire

The cross-sectional data were gathered with a large-scale e-questionnaire, which consisted of two parts. The first part of the questionnaire included originally 98 items on L2 motivation. The items were answered on a five-point Likert-scale (1 = *not at all true*, 5 = *completely true*). Fourteen items were removed after preliminary reliability analysis with a total of 84 items included in the actual analysis. The second part of the questionnaire included questions regarding the reasons behind students' language choices and non-choices, previous language studies, language use, and interest in language studies after compulsory education.

The motivational part of the questionnaire was constructed on the basis of earlier L2 motivation research. The questionnaire items were mainly based on Gardner's Attitude/Motivation Test Battery (1985, 2004) and questionnaires used in research done by Dörnyei (1990, 2001) and Julkunen (1998a, 1998b), and Julkunen and Borzova (1997) in the Finnish context. The items in English were translated into Finnish and the language of the items was checked by several native Finnish-speaking researchers to make sure that it fits the target group in the study.

The questionnaire included altogether 13 different motivational scales, which were based on earlier L2 motivation research. Ten of them were grouped on the language level, the learner level, and the learning situation level according to Dörnyei's theory (1994). The motivational scale named cognitive orientation includes the interest in and desire to learn foreign languages and attitudes towards them (see Gardner, 1985, 2004; Julkunen, 1998a). The scale communicative orientation refers to the desire to communicate with speakers of foreign languages (see Julkunen, 1998a). Teacher-specific motivational components include language teacher evaluation and attitudes towards him/her, and course-specific motivational components language course evaluation and attitudes towards the teaching method (see Gardner, 1985, 2004). Two motivational scales formed the part which can be called the significant others (Williams & Burden, 1997). This part included scales on peer pressure (J. Iwaniec, personal communication, October 6, 2010; Iwaniec, 2014) and parental encouragement. The last scale was named societal

expectations, and it included items on how the expectations of the surrounding society on knowing a language affect students' motivation (see Julkunen, 1998a). The number of items is given after each dimension below.

- Language level: instrumental (8), integrative (10), cognitive (8), and communicative orientation (5)
- Learner level: motivational intensity (6), L2 self-concept (8), ideal L2 self (5), and language class anxiety (6)
- Learning situation level: teacher (6) and course-specific (8) motivational components
- Significant others: peer pressure (4), parental encouragement (7)
- Societal expectations (3)

Participants

The population of the study was 15-year-old ninth-graders, who had already made all their language choices. Only Finnish-speaking schools were included in the sampling and Swedish-speaking schools were left out. This was done because the language program and language studies actualize in a partly different way in Swedish-speaking schools. Also teacher training schools, private schools², and language schools were excluded. The questionnaire was piloted in three schools and modified based on the feedback from students. The schools and teachers could decide themselves with how many language groups they wanted to take part in the study.

Students answered the questionnaire during a language lesson, and from the point of view of that language which's lesson it was. Altogether 33 Finnish-speaking schools from all parts of the country, and both big and small towns participated in the study. The final statistically representative sample was 1 206 answers (see Table 1). 59.7% of the answers were given by girls, and 40.3% by boys.

² In year 2014 there were altogether 2 498 comprehensive schools in Finland, of which only 38 were private schools (Statistics Finland, 2014).

Table 1 Answers per language and in total

Language	A1	A2	B2	Total
English	709	-	-	709
German	-	113	145	258
French	-	49	107	156
Russian	-	10	30	40
Spanish	-	-	43	43
Total	709	172	325	1206

Target Languages

The target languages were the most studied foreign languages in Finnish schools. Thus, the target compulsory A1 language in the study was English, and the optional A2 languages were French, German and Russian. Optional B2 languages included French, German, Russian, and Spanish. Swedish as the second national language was left out from the study, because it is not considered a foreign language in the curriculum for Finnish basic education (NBE, 2014c). As can be seen in Table 1, most of the answers concerned English, followed by German and French. The amounts of answers from Russian and Spanish remained small. It needs to be pointed out, that about a half of the answers in A1 English are from students who reported studying an optional language. They answered, however, from the viewpoint of A1 English (and not the optional language). This issue is elaborated more in the analysis part of the article.

Analysis of the Data and Results

The data have been analyzed statistically with the help of IBM SPSS Statistics 22 and Mplus Version 5.1. First, a reliability analysis was carried out in SPSS to test if the questionnaire items on the different motivational scales measure what was intended in a consistent way. Secondly, means were calculated separately for all the motivational scales for the compulsory A1 language and optional A2 and B2 languages. Regarding the A1 group, scores are also presented separately for students with A1 language only, labeled as A1-, and students who studied an optional language, labeled as A1+.

Table 2 Cronbach's alphas, means and SDs for compulsory and optional languages

			A1	A1-	A1+	A2	B2
			(n=709)	(n=363)	(n=346)	(n=172)	(n=325)
Motivational scale							
	<i>k</i>	α	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Instrumental orient.	8	.885	3.81 (0.77)	3.72 (0.73)	3.91 (0.81)	2.86 (0.85)	3.03 (0.84)
Integrative orient.	5	.880	3.33 (0.80)	3.22 (0.79)	3.45 (0.80)	2.41 (0.84)	2.64 (0.76)
Cognitive orient.	8	.886	3.99 (0.73)	3.92 (0.71)	4.05 (0.75)	2.89 (1.04)	3.33 (0.90)
Communic. orient.	5	.881	3.70 (0.92)	3.61 (0.89)	3.80 (0.93)	2.34 (1.01)	2.62 (0.87)
Motivat. intensity	6	.716	3.57 (0.69)	3.51 (0.64)	3.64 (0.69)	2.84 (0.81)	3.09 (0.77)
L2 Self-concept	8	.887	3.77 (0.90)	3.63 (0.92)	3.92 (0.86)	2.99 (0.93)	3.28 (0.85)
Ideal L2 self	5	.887	3.78 (0.89)	3.64 (0.86)	3.92 (0.89)	2.78 (1.09)	3.18 (0.94)
Lang. class anxiety	6	.833	1.86 (0.93)	1.83 (0.88)	1.90 (0.98)	1.97 (0.83)	1.89 (0.80)
Teacher-specific	6	.870	3.53 (0.96)	3.54 (0.97)	3.53 (0.96)	3.46 (0.93)	3.31 (1.01)
Course-specific	8	.834	3.42 (0.81)	3.38 (0.83)	3.45 (0.78)	2.69 (0.86)	2.98 (0.87)
Peer pressure	4	.735	3.39 (0.83)	3.27 (0.81)	3.52 (0.82)	2.46 (0.85)	2.61 (0.91)
Parental encourag.	7	.844	3.17 (0.92)	3.10 (0.92)	3.24 (0.91)	2.78 (0.94)	2.71 (0.91)
Societal expectations	3	.904	4.03 (0.98)	3.91 (0.99)	4.16 (0.96)	2.13 (0.93)	2.32 (0.95)

Note. *k* = number of final items; α = Cronbach's alpha; *M* = mean; *SD* = standard deviation.

Table 2 shows the reliabilities (Cronbach's alphas), the means, and standard deviations of different motivational scales for the compulsory A1 language, and optional A2 and B2 languages. As explained above, the A1 language group consisted of students studying only A1 language (N=363) and students studying an additional optional language (N=346). However, a comparison of the means on different motivational scales showed only minor level differences between these two groups, as is seen here, and also the effect sizes were small or moderate, as will be seen in Table 3 below.

The internal consistency of the motivational scales is adequate, reliabilities reaching over .70 on all motivational scales, when the acceptable values are considered ranging from .70 to .95 (Tavakol & Dennick, 2011). It is lowest for motivational intensity ($\alpha = .716$) and peer pressure (α

= .735), and highest for societal expectations ($\alpha = .904$), L2 self-concept ($\alpha = .887$), and ideal L2 self ($\alpha = .887$). The high score of the societal expectations scale can partly be explained with the content-related similarity of the three items on this scale.

The table also shows that means are strikingly higher for the compulsory A1 language than for optional A2 and B2 languages on all motivational scales. The differences are particularly high between A1 and A2 languages. Students' L2 motivation is clearly stronger in English than in other foreign languages. Especially the societal expectations scale indicates how highly valued language English is in the Finnish society. English is also the foreign language students find most useful and appreciate the most. This topic will be problematized in more detail in the conclusion of this article.

The only exception is the scale for language class anxiety, where the differences between the languages are smallest. In addition, scores on the scale regarding teacher-specific motivational components do not differ much between the languages. It seems that language class anxiety is not related to a particular compulsory or optional language. Neither seems the strength of motivation depend essentially on teachers-related factors in the different languages.

Table 3 Between group effect sizes (Cohen's *d*) for compulsory and optional languages

Motivational scale	ES Cohen's <i>d</i>	ES Cohen's <i>d</i>	ES Cohen's <i>d</i>	ES Cohen's <i>d</i>
	A1- and A1+	A1 and A2	A1 and B2	A2 and B2
Instrumental orientation	0.25	1.21	0.98	0.20
Integrative orientation	0.29	1.14	0.88	0.29
Cognitive orientation	0.18	1.38	0.84	0.46
Communicative orientation	0.21	1.45	1.19	0.30
Motivational intensity	0.20	1.02	0.67	0.32
L2 Self-concept	0.33	0.86	0.55	0.33
Ideal L2 self	0.32	1.07	0.66	0.40
Language class anxiety	0.08	0.12	0.03	0.10
Teacher-specific	0.01	0.07	0.23	0.15
Course-specific	0.09	0.89	0.53	0.33
Peer pressure	0.31	1.12	0.91	0.17
Parental encouragement	0.15	0.42	0.50	0.08
Societal expectations	0.26	1.96	1.76	0.20

Note. ES = effect size

Table 3 presents the results from the between-group comparisons of means (Cohen's *d*) of the compulsory and optional languages on the motivational scales. An effect size (ES) of .20 is considered small, .50 medium, and .80 large (Cohen, 1992). The effect sizes confirm that all the language groups are most similar on the language class anxiety scale and the scale measuring teacher-specific motivational components. The effect sizes remain smallest between the A1- and A1+ groups, and under medium also between A2 and B2 groups, but become large on many scales between A1 and A2, and A1 and B2 groups. Based on these results it was decided to treat the A1 language group as one group in the following analysis. The A2 and B2 groups are still handled as separate groups based on the fact that these languages are chosen in different grades during basic education.

Latent Profile Analysis

Next, a latent profile analysis (LPA) was carried out in Mplus version 5.1 to find out if latent classes representing different kinds of motivational L2 learner profiles can be found in the data.

According to Bergman and Wångby (2014) LPA is a person-oriented approach and one of the methods used in person-oriented empirical research. LPA is a model-based analysis where the estimated statistical model contains a latent categorical variable that explains the relationships in the data. The model's parameters are estimated from the sample and the model fit is tested (see also Muthén & Muthén, 1998–2012). For more detailed descriptions on the theoretical and methodological base of the person-oriented approach, see Bergman and Magnusson (1997), and von Eye and Bogat (2006).

According to Marcoulides and Heck (2013) LPA is a type of mixture model using continuous variables. In these models latent variables can be used to represent mixtures of subpopulations where population membership is inferred from the data. Further, in LPA the mean for each outcome variable may be expected to change across classes. A deeper explanation of the statistical basis of LPA can be found for example in the article of Pastor, Barron, Miller and Davis (2007).

LPA has been used more in the field of educational psychology (see e.g. Raufelder, Jagenow, Hoferichter, & Drury, 2013), but not in L2 motivation research. For example cluster analysis, which also resembles LPA, has been used lately (e.g. Piniel & Csizér, 2015). Compared with the previous research on L2 motivational profiles and types, both Csizér and Dörnyei (2005), and Papi and Teimouri (2014) used cluster analysis as the statistical method in their studies. However, according to statisticians cluster analysis is outperformed by LPA in many ways, as it is model-based and allows the comparison of different models with the help of the fit indexes it provides (see e.g. Marsh, Lüdtke, Trautwein, & Morin, 2009; Pastor et al., 2007; Peugh & Fan, 2013; Raufelder et al., 2013). The aim of the present study is therefore also to explore, how LPA as a person-oriented approach can be utilized also in the research of L2 motivation.

The analysis included data from both compulsory and optional languages. Parameters were estimated using maximum likelihood estimation with robust standard errors (MLR). In order to concentrate more on the qualitative (profile shape) differences, the variation in individual profile level was allowed. This was done by adding a latent level factor to the model. The factor means were fixed to zero and variances were set equal for all classes. This was done to avoid the common situation where groups differ only on the quantitative level (see Marsh et al., 2009), and to highlight how the different profiles score on the 13 motivational scales.

The statistical criteria used in this study in order to decide the optimal number of groups were adjusted Bayesian information criteria (aBIC; Sclove, 1987), and Lo-Mendel-Rubin adjusted likelihood ratio test (LMR; Lo, Mendell & Rubin, 2001). ABIC is most useful with large sample sizes (Tolvanen, 2007), so it was selected as the information criteria over AIC (Akaike information criteria; Akaike, 1987) and BIC (Bayesian information criteria; Schwartz, 1978) in this study. Lower aBIC values indicate better model fit (Tolvanen, 2007).

The LMR test compares the improvement in fit between adjoining class models (Nylund, Asparouhov, & Muthén, 2007), and a low p-value gives reason to reject the model with one less class in favor of the estimated model with more classes (Muthén & Muthén, 1998–2012). Additionally, the standardized index of model-based classification accuracy, Entropy (Peugh & Fan, 2013) was used in deciding the number of groups. Entropy ranges from 0 to 1, and higher values indicate better classification utility (Pastor et al., 2007).

In addition to these statistical criteria and tests, when choosing the number of groups, a solution that is most rational in relation to theory, earlier research, and in interpreting the results should be selected, although researchers have lately stressed that the number of groups should be decided based on the fit indexes (Marsh et al., 2009).

Table 4 Criteria for assessing fit for different number of groups

Number of groups	aBIC	LMR	Entropy	Class counts based on most likely latent classes
1	43033.09	-	-	1206
2	31614.45	.0000	.789	389, 817
3	31234.87	.0003	.809	110, 607, 489
4	31004.75	.1616	.803	397, 150, 554, 105
5	30827.30	.0445	.834	95, 348, 215, 477, 71
6	30687.18	.0599	.823	120, 186, 474, 91, 268, 67

Note. aBIC = Sample-size adjusted Bayesian information criteria; LMR = Lo-Mendel-Rubin adjusted likelihood ratio test, $p < .05$

Based on the calculated statistical fit information for each model in Table 4, a solution of five groups fit the data best. Even though the aBIC seems to continue to decrease, the LMR test

shows statistical significance ($p < .05$) for the five-group solution. In addition, entropy is highest for five groups. Also the AvePP, which indicates the average posterior probability of membership in each group for those individuals assigned to it and would ideally be 1 but should be at least .70 (Nagin, 2005), was high in all groups. These AvePP values for the five groups were .908 in group 1, .853 in group 2, .879 in group 3, .921 in group 4, and .936 in group 5. These five groups can also be named and explained with reference to the background theory and different motivational scales. Thus, five different L2 learner profiles can be found in the whole data. Table 5, in turn, shows the effects sizes (Cohen's d) between the profiles. The effect sizes range from very small to very large indicating how different the profiles are from each other on the motivational scales.

Profile 4 (AvePP=.921) Profiles 2 (AvePP=.853) and 3 (AvePP=.879) profile 5 (AvePP=.936)
profile 1 (AvePP=.908)

Table 5 Between group effect sizes (Cohen's *d*) for the five motivational profiles

Motivational scale	Between-group effect size (Cohen's <i>d</i>)									
	C1, C2	C1, C3	C1, C4	C1, C5	C2, C3	C2, C4	C2, C5	C3, C4	C3, C5	C4, C5
Instrumental orientation	0.43	0.30	0.77	0.46	-0.14	0.32	0.08	0.47	0.22	-0.24
Integrative orientation	0.30	0.50	0.83	0.52	0.21	0.54	0.31	0.33	0.11	-0.20
Cognitive orientation	1.58	1.68	3.45	0.88	-0.01	1.28	-0.64	1.41	-0.67	-2.21
Communicative orientation	0.65	0.91	1.53	0.73	0.16	0.79	0.09	0.66	-0.07	-0.70
Motivational intensity	1.09	1.23	2.39	0.73	0.14	1.30	-0.17	1.18	-0.30	-1.41
L2 Self-concept	1.73	1.10	3.08	0.06	-0.76	0.99	-1.63	1.92	-1.00	-2.97
Ideal L2 self	0.61	0.61	1.32	0.59	-0.08	0.64	0.03	0.79	0.12	-0.61
Language class anxiety	2.24	0.62	-3.64	3.40	3.01	-1.07	6.42	-4.43	3.23	8.52
Teacher-specific	0.79	1.18	2.13	0.58	0.36	1.19	-0.16	0.84	-0.51	-1.40
Course-specific	1.68	2.11	3.59	0.89	0.54	2.02	-0.56	1.42	-0.98	-2.27
Peer pressure	0.74	1.12	1.20	1.00	0.27	0.42	0.22	0.17	-0.04	-0.20
Parental encouragement	0.34	0.47	0.48	0.69	0.12	0.13	0.37	0.01	0.27	0.25
Societal expectations	0.76	1.08	1.19	0.93	0.14	0.38	0.08	0.27	-0.06	-0.31

Note. Effect size (ES) of .20 is considered small, .50 medium, and .80 large (Cohen 1992).

Figure 1 shows how these five profiles score on the different motivational scales. The biggest differences between the profiles are on the cognitive orientation, L2 self-concept, language class anxiety, and teacher- and course-specific motivational components. By contrast, the profiles are most similar to each other concerning instrumental and integrative orientation, peer pressure and parental encouragement.

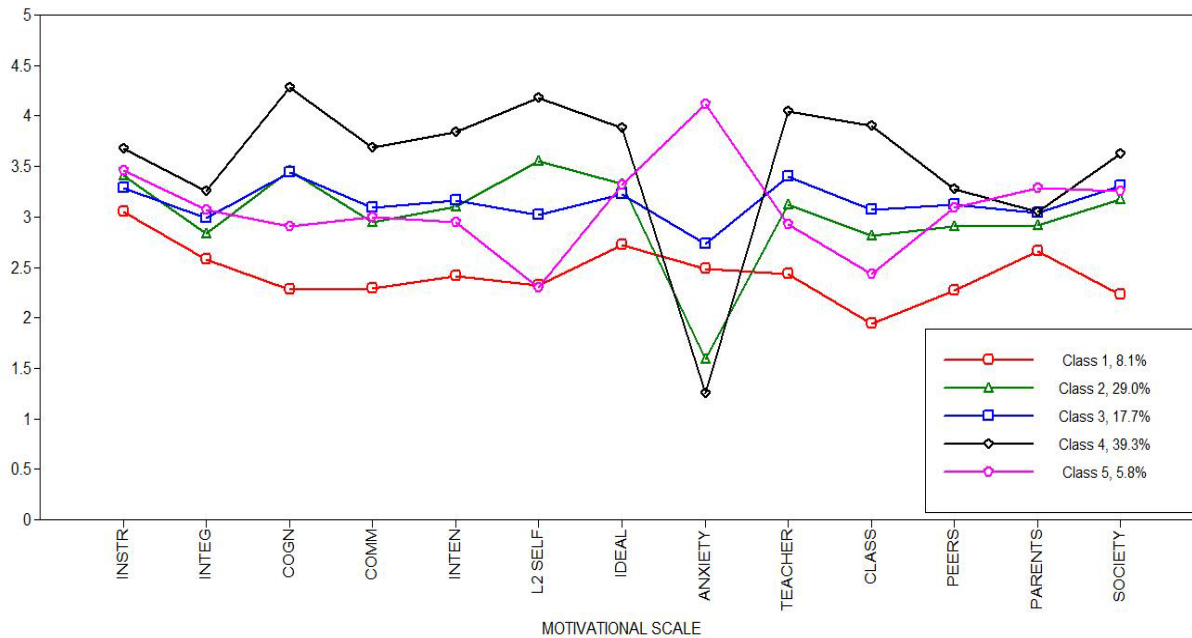


Figure 1 The five motivational profiles found in the data

Profile 4 includes clearly the most motivated language learners with very low language class anxiety. Profiles 2 and 3 represent "the average language learner", but they score different on two scales: L2 self-concept and language class anxiety. In contrast, profile 5 includes learners with a low self-concept and high language class anxiety, and profile 1 presents the least motivated learners.

The most motivated students in profile 4 score highest on most of the motivational scales, especially on the cognitive orientation, L2 self-concept, but also regarding the teacher- and class-specific motivational components. These students represent a group of learners, who clearly like the language being studied, believe in their skills, and enjoy studying in the class. As Table 6 shows, the majority (39%) of students is included in this group.

"The average language learners" in profile 2 and 3 resemble each other on all the motivational scales except for self-concept as L2 learner and language class anxiety, where students in profile 3 seem to do better with a higher self-concept and lower anxiety than students in profile 2. It seems that students in profile 3 have more confidence in themselves as language learners as students in profile 2. Almost a third (29%) of the students belongs in profile 2, the average motivated with low anxiety, followed by average motivated in profile 3 (18%) as can be seen in table 6.

Students in profile 5 are the ones who experience much anxiety in language learning. They see themselves as poor L2 learners (as the least motivated ones) and do not care for the language classes. They do not like the language as much as “the average learners”, but their ideal L2 self is on the same level as theirs. This profile scores highest on parental encouragement, which might indicate, that students with high anxiety experience more parental support.

The least motivated students in profile 1 score very low on all the motivational scales. They probably dislike language classes, and do not study the language because they would feel that the society expects them to do so. However, learners in profiles 5 and 1 form a clear minority in the whole data. The amount of least motivated students is 8%, and students with high anxiety only 6%.

Table 6 Distribution of different motivational profiles in the data

Profile	Label	% of all
1	Least motivated	8
2	Average motivated + low anxiety	29
3	Average motivated	18
4	Most motivated	39
5	High anxiety	6

Next, a cross tabulation of the compulsory and optional languages and the found L2 motivational profiles was carried out to see, if there are connections between these (see Table 7). Adjusted residuals with an absolute value over 1.96 or under -1.96 are considered significant on a level of $p < .05$. The residuals indicate whether the observed count is greater or smaller than the expected count. The cross tabulation shows that there are connections between the languages and profiles. Also the χ^2 -test for cross tabulation and the effect size indicated that the profiles differ statistically between the compulsory and optional languages, $\chi^2(8) = 96.40$, $p = .001$, Cramér's $V = .20$.

Table 7 Cross tabulation of the compulsory and optional languages and L2 motivation profiles

		L2 motivation profiles									
		1		2		3		4		5	
		Least motivated (n=95)		Average + low anxiety (n=348)		Average (n=215)		Most motivated (n=477)		High anxiety (n=72)	
	n	Adj. res.	n	Adj. res.	n	Adj. res.	n	Adj. res.	n	Adj. res.	
A1	22	-7.4	175	-3.8	153	4.1	312	3.8	47	1.3	
A2	29	4.7	71	3.9	22	-1.9	40	-4.7	10	0.0	
B2	44	4.4	102	1.2	40	-3.0	125	-0.5	14	-1.4	

Note. Adj. res. = adjusted residuals.

Table 7 shows the counts and adjusted residuals for the compulsory and optional languages and profiles. Based on the adjusted residuals learners of A1 language are underrepresented (adj.res. = -7.4) and learners of A2 and B2 languages are overrepresented (adj.res. 4.7 and 4.4, respectively) in profile 1. Additionally, learners of A1 language are overrepresented (adj.res. = 3.8) and learners of A2 language underrepresented (adj.res. = -4.7) in profile 4. This means that the most motivated learners are learners of the compulsory language (in this study English), and the least motivated learners are learners of optional languages. It seems that students are less motivated to study the optional A2 language (starts on 4th or 5th grade) than B2 language (starts on 8th grade). This might result from the fact that parents affect more often the decision to start to study an A2 language than the decision to start a B2 language (Kangasvieri et al. 2011), i.e. students' own choices might affect motivation positively.

Table 8 Cross tabulation of different foreign languages and L2 motivational profiles

		L2 motivation profiles									
		1		2		3		4		5	
		Least motivated		Average + low anxiety		Average		Most motivated		High anxiety	
		(n=95)		(n=348)		(n=215)		(n=477)		(n=72)	
	n	Adj. res.	n	Adj. res.	n	Adj. res.	n	Adj. res.	n	Adj. res.	
EN	22	-7.4	175	-3.8	153	4.1	312	3.8	47	1.3	
GE	42	5.7	96	3.3	26	-3.6	82	-2.9	12	-1.0	
FR	17	1.5	54	1.7	26	-0.4	51	-1.9	8	-0.4	
RU	8	2.9	15	1.2	6	-0.5	8	-2.6	3	0.4	
SP	6	1.5	9	-1.2	3	-1.9	24	2.2	1	-1.0	

Note. EN = English; GE = German; FR = French; RU = Russian; SP = Spanish; Adj. res. = adjusted residuals.

Finally, Table 8 presents in more detail the adjusted residuals and the effect size for the different foreign languages and profiles. The χ^2 -test was statistically significant, $\chi^2(16) = 103.90$, $p = .001$, Cramér's $V = .15$. In the table information for English is the same as above. Compared with English, learners of German seem to fall in the profiles in the opposite way: they are highly overrepresented (adj.res. = 5.7) in the least motivated and underrepresented (adj.res. = -2.9) among the most motivated. In contrast, learners of French seem to end up to these five different profiles as could be expected statistically. Because of the small number of students ($N < 5$) of Russian and Spanish in the different profiles, reliable conclusions are difficult to make regarding these languages.

Conclusions

The aim of this article was to present the results of a L2 motivation study carried out among Finnish comprehensive school students. The goal was to find out whether specific motivational profiles can be found among them as learners of different foreign languages. The results from the latent profile analysis (LPA) show that five different kinds of motivational profiles can be identified among Finnish L2 learners: the most motivated, the average motivated, the average motivated with low anxiety, the least motivated, and the ones with high anxiety. Thus, latent profile analysis as a person-oriented method proved to be a useful approach also in L2 motivation research.

The results of this study give some support to the findings of Csizér and Dörnyei (2005), and Papi and Teimouri (2014) in previous studies. Both in the Hungarian and the Iranian study a profile with least motivated and a profile with most motivated students as well as interim groups between these were found, as were also in the current study. However, because of the different number of the motivational dimensions explored and the theoretical frame used, the results of the previous studies and the current study are not fully comparable. In the Hungarian and the Iranian study the results were interpreted with the help of Dörnyei's (2005) L2 Motivational Self System theory. In the present study L2 self-concept and language class anxiety were the motivational scales that explicitly separated profiles from each other. Thus, it is clear based on both the previous studies and this study that the motivational scales related to the language learner have a significant role in shaping the motivational profiles.

Among Finnish L2 learners, also the cognitive orientation scale, which is related to the interest in and desire to learn foreign languages and attitudes towards them, clearly separates students into different profiles. Factors regarding the learning situation, i.e. teacher- and course-specific motivational components, are also important in shaping the profiles different. Of the overall structure of L2 motivation these in addition to L2 self-concept and anxiety are obviously the scales that need to be observed and inspected in more detail in the Finnish context.

In this study it was hypothesized that students have different kind of motivational profiles for studying a compulsory language versus optional languages, which based on the results turned out to be true. Differences between the compulsory and optional foreign languages show that the most motivated students are the learners of the compulsory language (English) and least motivated students are ones with an optional language (French, German, Russian, and Spanish)

(cf. Csizér & Dörnyei, 2005). In relation to the particular languages especially learners of German seem to end up in the group of least motivated learners.

Overall the results of this study, however, indicate that the majority of Finnish comprehensive school students are quite motivated language learners, but it is also very clear that students are more motivated to study the compulsory language (English) than the optional languages (French, German, Russian, and Spanish). The results might also suggest that the optionality of the language studied does not directly correspond with a stronger motivation. It was hypothesized that choosing and studying an optional language in addition to the compulsory language would stem from a greater L2 motivation, but this does not seem to be the case. As the compulsory language in the current study is English, it is highly probable that the motivation towards the compulsory language stems from the language itself, not the obligatoriness of the language.

These results can be considered somewhat contrary to the findings of Henry and Apelgren (2008) who in their study concluded that Swedish students viewed learning a foreign language other than English more positively than they viewed learning English after receiving one year of instruction in the foreign language. At the point of filling in the questionnaire students in the current study had studied English for seven years and started their second year of studying the optional language. Students in Henry and Apelgren's study (2008) were also a bit younger (sixth-graders) than students in this study (ninth-graders).

English clearly has a special role for Finnish comprehensive school students. As it has become the most studied foreign language in Finland and the most popular media language among children and young people, other languages might appear unnecessary or useless in their eyes (Kangasvieri et al. 2011). This results from the status English has in the surrounding society, and the high presence of English in students' everyday life (see e.g. Ushioda, 2013). It is likely that Finnish students' engagement in using English outside school might affect their motivation to learn it at school (cf. Henry, 2013, 2014), but this can work in two ways: on the one hand using English in your free time might support your language studies at school, but on the other hand negative experiences about leisure time language use might decrease motivation at school and vice versa. Additionally, much of the English students learn on their free time is probably not yet utilized in language classes at schools.

The results of this study also support the results gained from the national assessment of learning outcomes in foreign languages in Finland (Finnish Education Evaluation Centre, 2014). According to this study Finnish ninth-graders' proficiency is highest in English. They consider English as the most useful foreign language and prefer it over other languages. They also believe that their skills in English are best. Against this background it is not surprising, that the students are most motivated to learn English.

At the same time, the main problem with the current study is that the results might have been considerably different, if the compulsory language in the study had been some other language than English. The amount of students studying other languages as the compulsory language is, however, very small, only a few percentages (NBE, 2014b). Therefore, the most practical and effective way to conduct this study was to choose only English as the target compulsory language. Additionally, the fact that English has such a special status among students compared to other languages supported the decision to choose it as the compulsory language in the study.

Issues related to the L2 self and the role of English are central in current L2 motivation research, and they have proven to be important also in this study. The results of this study by so far also indicate, that the biggest challenges in Finnish foreign language education in basic education is firstly to get students interested in studying other foreign languages in addition to English, and secondly, to maintain their motivation towards learning these other foreign languages. From the point of national language education policies and education policies at large, it would also be of interest to know if there are differences between the motivational profiles of students with reference to school and gender. From an international perspective it would be highly interesting to know, if similar motivational profiles can be found among L2 learners in other countries.

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