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The predictors of exam performance of Kazakh university students and secondary school pupils learning Turkish: An exploratory investigation¹

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Abstract: The present study investigates the effect of sociobiographical, emotional, attitudinal characteristics and teacher perceptions of 275 Kazakh secondary school pupils and 317 university students on their exam performance in Turkish as a foreign language (FL). Multiple regression analyses reveal that exam results in Turkish of secondary school pupils are predicted by teacher gender, participant's age, attitude towards the FL and FL Classroom Anxiety. A very different picture emerges for university students, where FL level, participant's gender, FL Enjoyment, FL Classroom Anxiety and teacher's age explain more than twice as much variance. FL exam scores for both groups are thus underpinned by different sets of complex interactions between multiple learner-internal and learner-external variables and the effect of emotions is much stronger among university learners.

Keywords: Foreign Language Enjoyment; Foreign Language Classroom Anxiety; Kazakhstan, Turkish, exam performance

Introduction

Interest in classroom emotions has grown exponentially since early calls to extend socio-psychological research on attitudes and motivation in Second Language

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Acquisition (SLA) into the area of emotions and learner psychology (Dewaele, 2005). The current paper is part of this new wave of studies exploring the complex and dynamic interactions between learners' emotions and their progress and performance in the foreign language (FL) (for overviews, see Dewaele, Chen, Padilla & Lake, 2019; Dewaele & Li, 2020). One particularly rich seam in this area of research is the role of individual differences, and more specifically the relationship between learner-internal and learner-external variables, emotions - which play an important role in sustaining and amplifying motivation (Dörnyei, 2020) and performance in the FL (Botes, Dewaele & Greiff, 2020). Researchers have realised that causality can be bi-directional, as emotions shape performance but are simultaneously influenced by the success –or lack of it- in various type of assessments and tests. Moreover, a multitude of contextual variables interact with various learner emotions at any moment in time, and at every step of the learning journey, and they can have both direct and indirect effects on performance.

Researchers have established that a different set of variables predict negative emotions such as Foreign Language Classroom Anxiety (FLCA) -defined as a complex negatively valenced emotion- and positive emotions such as Foreign Language Enjoyment (FLE) - defined as a complex positively valenced emotion (Dewaele & MacIntyre, 2014). Analysis of the sources of variation in both emotions showed that FLCA is mostly linked to learner-internal psychological variables whereas FLE is more related to learner-external variables such as teacher characteristics and classroom environment (Dewaele, Witney, Saito & Dewaele, 2018). The pedagogical implication is that teachers have comparatively less influence over their students' FLCA but that they have the power to boost FLE, which can help anxious students to manage their anxiety better. Getting the emotional temperature right in the classroom is thus a crucial task for teachers (Dewaele, 2020).

Putting learners in a positive emotional mood is not a luxury, it is a necessity. Indeed, classroom emotions predict FL performance and Willingness to Communicate. Happy students talk more freely, experiment with the FL without fear

of ridicule, are more motivated and end up performing better in tests and exams (Botes, Dewaele & Greiff, 2020).

One of the consistent findings in research on classroom emotions has also been that older learners, in tertiary education, typically have a more advanced level in the FL and report superior levels of FLE and lower levels of FLCA (Dewaele & MacIntyre, 2014, 2019). What these studies have in common is that the statistics were run on the whole sample including both younger and older learners in order to identify the independent variables that were linked to the dependent variables. The network of relationships that emerged was thus a reflection of the whole database and the assumption is that they apply to all participants. However, some studies have shown that the network of relationships between independent and dependent variables may evolve over time in a specific population. Dewaele and Dewaele's (2017) pseudo-longitudinal study of secondary school pupils showed that while FLE and FLCA remained broadly stable over time, the predictors of FLE and FLCA changed, with the teacher gaining a gradually stronger influence on FLE of older pupils.

The novelty of the present contribution lies in the comparison of two large groups of younger (secondary school) and older (university) learners, and in two separate analyses allowing a comparison of the predictors of FL exam performance in each group.

The current study also contributes to a much needed focus on languages other than English (LOTE) in order to avoid generalization in SLA on the basis of a single target language. Dörnyei and Al-Hoorie (2017) argued that support for the study of different LOTEs is more variable compared to the institutionalized support for English learning, a global language, and that this may affect motivation to learn the LOTE. The same could be argued for classroom emotions. The present study thus aims to shed light on the under-researched area of differences in the predictors of exam performance of secondary school and university learners while also broadening of the scope of linguistic profiles of FL learners.

Adopting the perspective that classroom emotions are a key part of a wider range of independent variables that can predict FL performance, and that are different in younger and older learners, the following research question guided the present study:

Do the same learner-internal, sociobiographical, attitudinal, emotional and teacher-centred variables predict the exam results of Kazakh secondary school pupils and university learners of Turkish as a FL?

Given the fact that the relationships between dependent and independent variables have not been investigated in this context before, this study is an exploratory investigation.

Literature review

A brief historical overview of emotion research in SLA

Dewaele and Li (2020) argued that SLA research on classroom emotions could be roughly divided into three broad phases. From the early 1960s to the mid 1980s SLA went through the “Emotion Avoidance Phase”, during which emotions were the elephant in the room. Their existence was not necessarily denied but they were viewed with a certain amount of suspicion. In accordance with the modernist tradition, cognitive factors were considered to be the main drivers of acquisition and performance (Prior, 2019). The relatively few studies that looked at the effect of anxiety reported inconclusive or contradictory results because of a lack of consistent definitions of the construct and an absence of reliable instruments to measure it (MacIntyre, 2017).

According to Dewaele and Li (2020), the second phase started with the publication of Horwitz, Horwitz and Cope (1986) and Krashen’s (1985) Affective Filter Hypothesis. These two studies heralded the “Anxiety-Prevailing Phase” that extended to the early 2010s. Acceptance grew during that period that emotion and cognition are linked, and that negative emotions such as Foreign Language Anxiety have a moderate negative effect on language learning and on performance in the FL (Botes, Greiff, & Dewaele, 2020; MacIntyre 2017). This period also saw the emergence of motivation research where anxiety was much more visible than positive emotions,

although Gardner (1985) did demonstrate that learners' positive attitudes toward the learning situation and integrativeness motivation contributed to their success in SLA. Emotions also remained largely in the background in Dörnyei's (2009) L2 Motivational Self System.

Dewaele and Li (2020) argued that the third phase started in the early 2010s and could be called the more holistic "Positive and Negative Emotions Phase" when a larger number of researchers became increasingly interested in the psychology of language learning and both learner and teacher emotions. It was triggered by the introduction of Positive Psychology to the field (MacIntyre & Gregersen, 2012). This "affective turn" (Prior, 2019) or "emotional turn" in SLA research also pushed motivation researchers to pay more attention to learner emotions. Dörnyei (2020) acknowledged that classroom emotions are powerful de/motivators in SLA and that they are related to interactions with teachers, peers, specific tasks and classroom activities within a more general context of school, society, culture and the more general political context. Dörnyei (2020) argues that emotions may not be linked to direct goal-directed motivated behavior, but to action tendencies, agreeing that emotions play a supporting role and that "positive emotions make a significant contribution to a variety of L2 motivational processes" (p. 122). We will focus in more detail on the development of the more holistic take on emotions in SLA in the next section.

Foreign Language Enjoyment and Foreign Language Classroom Anxiety

The first study on FLE and FLCA

Dewaele and MacIntyre (2014) was the first study to explicitly include a positive emotion and a negative emotion in the research design in order to gain a more holistic understanding of learner emotions. The main research question was the relationship between FLE and FLCA, namely whether they could be considered opposite poles of the same dimension or whether they actually were two independent dimensions. The aim of the study was also to identify and compare sources of variation in FLE and FLCA. The authors developed a 21-item FLE scale, included an 8-item version of Horwitz et al.'s (1986) FLCA scale and added one open question about enjoyable

episodes in the FL class. A total of 1742 FL learners from all over the world participated in the study. A moderate negative correlation between FLE and FLCA showed that FLE and FLCA are independent dimensions. Levels of FLE were found to increase significantly with the overall number of languages known, perceived proficiency, relative standing in the FL class, age, female gender and level of education, while FLCA showed an inversed pattern (with the exception of gender). A detailed analysis of the qualitative data revealed that learners' enjoyment originated in teachers who were humorous, happy, positive, supportive, professional, respectful of students and well-organized.

The effect of the teacher on learner emotion and performance

In an attempt to control contextual and societal variables, Dewaele, Witney, Saito and Dewaele (2018) investigated the sources of variation in FLE and FLCA of 189 secondary school pupils in two London schools who were mostly studying French as a FL. They found that more advanced learners reported higher levels of FLE and lower levels of FLCA, with the biggest difference occurring between intermediate and high intermediate levels. This pattern that more advanced learners report higher levels of FLE and lower levels of FLCA than beginning learners is probably not unique to FL learning. Botes, Dewaele and Greiff (2020) argued that this might in fact be a more general phenomenon when learning something new, be it a sport or music, can be especially challenging at the start when the absence of skill can lead to initial discouragement. Similarly, beginner FL speakers might curse their inability to express themselves properly, to understand the FL used with them and regret their linguistic clumsiness. However, through intense training and practice their confidence and enjoyment may grow and their anxiety about not getting it right might subside. It could be argued that causality could be bi-directional with learners experiencing lower levels of FLCA and higher levels of FLE working harder and attaining higher levels of mastery in the longer term.

A major finding in Dewaele et al. (2018) was that teacher characteristics and teacher practices had a stronger effect on FLE than on FLCA. The same database was used in Dewaele and Dewaele (2017) to see whether sources of FLE and FLCA

changed across the three age groups (12-13, 14-15, 16-18). It turned out that they did change, with an increased effect of the teacher on FLE among older pupils. Further investigation of the database showed that teacher behavior and learner emotions affected participants' Willingness to Communicate (WTC) in the FL (Dewaele & Dewaele, 2018). FLCA silenced participants while teachers' frequent use of the FL, a positive attitude towards the FL and FLE were positive predictors of WTC (Dewaele & Dewaele, 2018). Adopting a qualitative case study approach, Dewaele and Pavelescu (2021) investigated the relationship between FLE, FLCA and WTC in two Romanian secondary school English FL (EFL) learners. They found that WTC was related to the pupils' uniquely constructed FLE and FLCA in dynamic, idiosyncratic ways, shaped by their personality and individual experiences both inside and outside the English classroom. The authors warn against essentializing FLE and FLCA whose relationship with WTC can fluctuate sharply, depending on a range of interacting learner-internal and random contextual variables.

Focusing exclusively on the effects of teacher characteristics on FLE and FLCA of 210 Spanish EFL learners, Dewaele, Franco Magdalena and Saito (2019) found that the teacher's gender had no effect but the teacher's friendliness boosted FLE while the teacher's foreign accent lowered FLE. A closer look at the data showed that FLE only dropped significantly for teachers with a very strong foreign accent. FLCA was higher with younger, very strict teachers who did not use the FL much in class. In a follow-up study on the same database, Dewaele (2019) found that FLCA was the strongest (negative) predictor of WTC, while FLE and frequency of use of the FL were positive predictors of WTC. Pursuing the investigation into the role of teacher on classroom emotions, Dewaele and MacIntyre (2019) collected quantitative and qualitative data from 750 FL learners from around the world and found that teacher-related variables such as attitude towards the teacher and his/her friendliness were the strongest predictors of FLE while Emotional Stability was the strongest predictor of FLCA. An analysis of the sources of participants' emotions in their descriptions of episodes of high FLE and FLCA revealed that the teacher was mentioned more frequently in FLE than in FLCA episodes, where the self was mentioned most

frequently as the cause of anxiety. The importance of teacher enthusiasm on learner emotions was highlighted in Dewaele and Li (2021). The authors found that teacher enthusiasm significantly boosted the FLE and lowered the FL Boredom of 2002 Chinese EFL learners, two emotions which mediated student social-behavioural learning engagement. Interviews revealed that it was hard for students to enjoy a class and not be bored, and ultimately disengaged, with unenthusiastic teachers.

In another study that controlled the linguistic profiles of the participants, Dewaele, Özdemir, Karci, Uysal, Özdemir and Balta (2019) focused on the distinctiveness of FLE and FLCA of 592 Kazakh learners of Turkish (the database on which the current study is based). FLE and also FLCA were more strongly predicted by learners' attitude toward Turkish and by teacher-related variables than by learner-internal variables, largely confirming previous research. Attitude toward the FL, teacher's friendliness, strictness and frequency of use of the FL, attitude toward the teacher, participant's age and FL exam results explained a quarter of the variance in FLE. In slight contrast with previous studies, FLCA was only weakly predicted by some learner-internal variables (FL exam result, attitude toward the FL) and also by some teacher-centred variables (friendliness, strictness).

The link between classroom emotions and FL performance

Higher proficiency scores and good test results have been linked to lower levels of FLCA and higher levels of FLE. Dewaele and Alfawzan (2018) investigated the relationship between FLE, FLCA and FL performance in the previously mentioned group of 189 FL pupils in two London secondary schools and in a group of 152 Saudi EFL learners and users of English in Saudi Arabia. A significant positive relationship emerged between FLE and performance in both groups while a -slightly weaker-negative relationship was found between FLCA and performance.

Botes, Dewaele and Greiff (2020) investigated the effect of multilingualism and self-perceived proficiency on FLE and FLCA on a subsample of 1622 FL learners extracted from the database used in Dewaele and MacIntyre (2014). They found a small, but statistically significant interaction effect between the number of languages known and self-perceived FL proficiency on FLCA but not on FLE. Participants

knowing more languages, and reporting higher levels of proficiency, reported more FLE and less FLCA.

Introducing a new element in the research design, Li, Dewaele and Jiang (2020) investigated the effect of FLE and FLCA on self-perceived English proficiency and actual English achievement of 1307 Chinese students, and repeated the analyses for the high, medium and low achievement groups. The findings confirmed previous research, namely that FLE and FLCA predicted FL proficiency overall, with FLCA having a stronger effect. A closer look revealed that the relationship between both emotions and actual English achievement was stronger in the high achievement group than in the middle achievement group. Surprisingly, neither emotions were significantly linked with English achievement in the low achievement group.

A number of studies combined positive psychological factors like grit and passion with learners' classroom emotions and considered their combined effect on FL achievement. The first study is Teimouri, Plonsky and Tabandeh (2020) who investigated the relationship between L2 grit, motivation, emotions and L2 achievement among 191 Iranian EFL university students. The authors found that gritty students showed greater persistence in their efforts to master the L2, were more passionate about using the FL, experienced lower FLCA and greater FLE in class, resulting in better FL achievement and higher self-reported proficiency.

The second study is Wei, Gao and Wang (2019) who also investigated the relationship between grit, FLE and FL performance among 832 Chinese EFL middle school students. They found that grit positively affected FL performance and that FLE mediated the relationship between both. Moreover, the classroom environment moderated the relationship between grit and FLE, and between grit and FL performance. Grit thus had a direct positive effect on FL performance but also an indirect one by boosting FLE and thus contributing to a more positive classroom environment.

The third study, by Chen, Vallerand and Padilla (2021), looked at the role of harmonious and obsessive passion (which the authors describe as motivational constructs) on the EFL learning 260 Chinese secondary school students. Path analyses

revealed that harmonious passion, and to lesser extent obsessive passion, were predictors of learners' positive experiences in L2 activity and boosted their WTC in English.

A number of studies have included a proper personality trait in the design, such as Li (2020) who focused on the complex relationships between Trait Emotional Intelligence, FLE, FLCA and FL achievement of 1307 Chinese EFL secondary school students. She found small to medium correlations between students' Trait Emotional Intelligence, FLE, self-perceived English achievement and actual English achievement and argued that Trait Emotional Intelligence was partially mediated by FLE to influence perceived achievement and actual achievement indirectly.

Research on emotions of learners acquiring two languages simultaneously
Resnik and Dewaele (2020) investigated only one part of the chain, namely the link between Trait Emotional Intelligence and classroom emotions in FL and first language (L1) classes. Participants were 768 German L1 speakers in secondary schools and universities enrolled in EFL classes. Levels of FLE and FLCA were found to be higher in the EFL classes than in L1 classes. Additionally, participants' FLE and FLCA were positively linked in the L1 and EFL classes. Higher levels of Trait emotional intelligence were linked to higher levels of FLE and lower levels of FLCA in the L1 and EFL classes.

No psychological variables were included in the design of Dewaele and Proietti Ergün (2020a) but, following the approach in Resnik and Dewaele (2020), the authors considered data from the same secondary school students studying two separate FLs simultaneously. They investigated whether classroom emotions, attitudes and motivation in two FLs, Italian and English, of the same 110 Turkish teenagers in an Italian immersion school, were identical and whether they had a similar relationship with course marks in both FLs. FLCA was found to be a strong negative predictor of course marks in both FLs while attitudes/motivation (but not FLE) was a positive predictor of course marks in both FLs.

In a second study on the same database, Dewaele and Proietti Ergün (2020b) compared classroom emotions, attitudes, motivation and course marks in participants'

Turkish L1 and Italian FL. Anxiety was the only variable that was correlated (negatively) to exam results in both languages, both confirming previous research on FLs and expanding it further into L1 performance.

The issue of causality

The argument for bi-directional causality is solid (Botes et al., 2020). Learners who enjoy their FL classes are likely to invest extra effort in the learning process, boosting their proficiency and increasing the chance of getting good test results, which in turn lead to teacher praise, boost social standing in the group and may further strengthen their FLE. On the other hand, lack of progress and disappointing results may have the effect of a cold shower on learners and start a negative spiral of reduced effort, weak results, negative feedback from teachers, lower social standing in the group, overall disappointment with the FL learning process and even a potential drop in mental wellbeing.

Context: Turkish in Kazakhstan

Kazakhstan obtained its independence in 1991 after the fall of the USSR (Yensenov et al., 2016). It re-established political, cultural and economic ties with Turkey in order to gain more independence from Russia, its traditional ally. This led to increased interest in the Turkish language. The Turkish government and private initiatives sponsored the teaching of Turkish in secondary schools and universities in Kazakhstan where the education language is generally English, and Turkish is taught as a second FL. President Nazarbayev supported the KATEV foundation (Kazakhstan ve Türkiye Eğitim Vakfı) a publically funded school system that runs 36 Kazakh-Turkish Lyceums in Kazakhstan (Intykbekov, 2017). Their aim is to turn Kazakh students into effective global citizens (McCarthy, 2016). In secondary schools, there are 5 hours of Turkish language per week for 7th grades, 4 hours for 8th grades and there are 2 hours for both 9th and 10th graders. Secondary school leavers generally know Turkish and English at upper-intermediate level while they know Russian almost at upper-advanced level from their elementary education.

Suleyman Demirel University is one of the Kazakh institutions with a strong Turkish connection. Freshmen have 3 hours and sophomores have 2 hours of Turkish language classes per week.

To sum up, the literature review shows that classroom emotions are the fuel of FL learning and that they are significant predictors of performance in the FL. It also shows that their relationships vary slightly across age groups, proficiency levels, and language. Moreover, many of the variables that predict FLE and FLCA can also have a direct effect on FL performance. The present study pursues this new avenue of research by comparing the relationships between learner-internal variables - including FLE, FLCA and attitudes - teacher-centred variables and the Turkish FL exam performance of Kazakh secondary school pupils and university learners.

The research question is thus as follows:

Do learners' sociobiographical, attitudinal and emotional variables, as well as characteristics of their teachers have a different effect on the Turkish FL exam performance of secondary school pupils and university learners?

Based on the previous literature, we hypothesise that the strength of the effects of learners' sociobiographical, attitudinal and emotional variables, as well as teacher-centred variables on Turkish FL exam performance will be different among secondary school pupils and university learners. More specifically, we expect both FLCA and FLE to be stronger predictors of exam performance in Turkish among the more advanced and older university learners.

Method

Procedures

Data were gathered in the academic year 2018/19 via Google forms. The sampling was purposeful as an invitation was sent to 2000 students in one university and about 600 pupils in a secondary school. The call was posted on the institutions' social media platforms explaining that it was a study on the learning of Turkish as a FL for those aged 12 and above. Participants were told that their name was necessary to link data

collected through the questionnaires with their exam results but that their anonymity was guaranteed in any future publications. They indicated consent by ticking a box at the start of the questionnaire. Dr Cemal Özdemir at the Suleyman Demirel University obtained ethical approval for the research design and questionnaire. He also obtained separate agreement from the director of the secondary school to forward the call for participation to his pupils.

Participants

Participants were 592 secondary school pupils and undergraduate students studying Turkish as a FL (Table 1). The pupils came from a private school, located in Nur-Sultan (formerly known as Astana), that caters to a population of pupils with a relatively high SES and performs well in national league tables. Suleyman Demirel University is also private, selective and requires a tuition fee. Students come from all over Kazakhstan and have Kazakh as an L1 or as one of their L1s. They all had intermediate to advanced knowledge of English, which is one of the most popular FLs in Kazakhstan together with Russian. Other FLs are Arabic, Chinese, French, German and Turkish.

A series of Pearson Chi² analyses showed no significant difference between both groups for gender distribution nor for degree of multilingualism. However, the secondary school pupils had a higher proportion of Kazakh nationals and a lower proportion of advanced learners of Turkish (Table 1).

Table 1

Sociobiographical information of secondary school pupils (n = 275) and university students (n = 317) (Pearson Chi² analyses)

Variable	Category	Secondary school pupils	University Students	Pearson Chi ²	p
Age		M = 14.0, SD = 1.5	M = 18.1, SD = 1.5		
Gender	Male	76 (27.6%)	109 (34.4%)	3.12	.077
	Female	199 (72.4%)	208 (65.6%)		
Nationality	Kazakh	260 (94.5%)	265 (83.6%)	17.59	.0001
	Other	15 (4.5%)	52 (16.4%)		
Multilingualism	Bilingual	34 (12.4%)	53 (16.7%)	9.09	.16
	Trilingual	38 (13.8%)	53 (16.7%)		
	Quadrilingual	159 (57.8%)	146 (46.1%)		
	Pentalingual	28 (10.2%)	45 (14.2%)		
	Sextalingual	14 (5.1%)	19 (6.0%)		
Level in Turkish	A1	91 (33.1%)	108 (34.1%)	21.48	.001
	A2	76 (27.6%)	92 (29%)		
	B1	82 (29.8%)	56 (17.7%)		
	B2	17 (6.2%)	28 (8.8%)		
	C1	6 (2.2%)	20 (6.3%)		
	C2	3 (1.1%)	13 (4.1%)		

Instruments

The instrument used in Dewaele, Franco Magdalena and Saito (2019) was translated to Turkish and slightly adapted. The translation was checked by two English language teachers who have Turkish as an L1. The term “FL” in the original version was replaced with “Turkish”. Participants had the option to complete the Turkish or the English version of the questionnaire. Participants’ sociobiographical information was collected as reflected above. Their latest exam results for Turkish as a FL were

obtained through the institutions' administrators. Using the descriptors of the Common European Framework, a majority of participants indicated their level in Turkish (Table 2).

Participants were then presented with a 5-point Likert scale, ranging from "very unfavourable" to "very favourable" to report their attitudes towards Turkish and their attitude towards their teacher. Further items inquired about teacher behavior and characteristics, including strictness, friendliness, frequency of use of Turkish in class, strength of a foreign accent in Turkish, teacher gender, and teacher age (Table 2).

The next section contained the 10-item *Foreign Language Enjoyment Scale* used by Dewaele et al. (2018) that were extracted from the original 21-item scale (Dewaele & MacIntyre, 2014). All items were positively phrased (see Appendix). A scale analysis revealed very high internal consistency (Cronbach alpha = .927, $n = 10$) (cf. Dörnyei; 2010, p. 95).

The same 8 items used by Dewaele and MacIntyre (2014) that were extracted from the *Foreign Language Classroom Anxiety Scale* (Horwitz et al., 1986) were used in the present study (see Appendix). They reflect physical symptoms of anxiety, nervousness and lack of confidence. Two items that contained positive statements were reverse-coded so that high scores reflect high anxiety for all items on this measure. Internal reliability was good (Cronbach alpha = .810, $n = 8$).

A comparison of the dependent and independent variables in both groups shows that the secondary school pupils had significantly higher exam scores, less favourable attitudes towards Turkish and the Turkish teacher (Table 2). They also reported lower levels of FLE than the university students. A larger proportion of teachers were female and were slightly older in the secondary schools.

Table 2

Mean scores, distributions and differences in the variables of the secondary school pupils and the university students (Independent t-tests and Pearson Chi² analyses)

Variable	Secondary school pupils	University students	<i>t</i>	<i>df</i>	<i>p</i>
Exam results	83.4	79.3	3.49	566.04	.001
Attitudes Turkish	3.80	4.03	-2.59	589.78	.010
Attitude teacher	4.03	4.25	-2.43	582.64	.015
Teacher strictness	2.45	2.34	1.11	590	.26
Teacher friendliness	4.44	4.52	-1.19	590	.23
Teacher freq of use of FL	4.48	4.45	.36	590	.72
Teacher foreign accent	1.69	1.52	.17	590	.09
FLE	3.55	3.79	-3.26	580.84	.001
FLCA	2.80	2.70	1.77	589.73	.076
			<i>Chi²</i>	<i>df</i>	<i>p</i>
Teacher gender	F: 108 (39.3%) M: 167 (60.7%)	F: 210 (66.2%) M: 107 (33.8%)	43.1	1	.0001
Teacher age	20s: 25 (9.1%) 30s 147 (53.3%) 40+: 102 (37.2%)	20s: 44 (14.4%) 30s: 186 (61%) 40+: 75 (24.6%)	12.3	1	.002

Data analysis

Data were analysed using SPSS version 26. A Q-Q plot (quantile-quantile plot) showed that exam results follow a normal distribution reasonably well except for the extreme tail for pupils and students (values below 60) (Figures 1 and 2). Pearson correlation analyses were thus used to identify significant relationships between the independent variables and FLE and FLCA. Independent variables that had a significant relation with exam results were included in multiple linear regression analyses (step method) in order to identify the strongest predictors of exam scores in

the group of secondary school pupils and university students. Assumptions for conducting regression analyses were met. The Durbin-Watson values, the tolerance values and the VIF values indicated no problem for autocorrelation nor multicollinearity. The checking of the normality and residual plots indicated sufficient linearity and homoscedasticity. Green (1991) suggests that the minimum sample size for any regression should be 50, with an additional 8 observations per term. This means the minimum sample size for the four independent variables in the regression analysis of the secondary school pupils is 82, which is well below our sample size of 275. Finally, the minimum sample size for the eleven independent variables in the regression analysis of the university students is 133, which is again well below our sample size of 317.

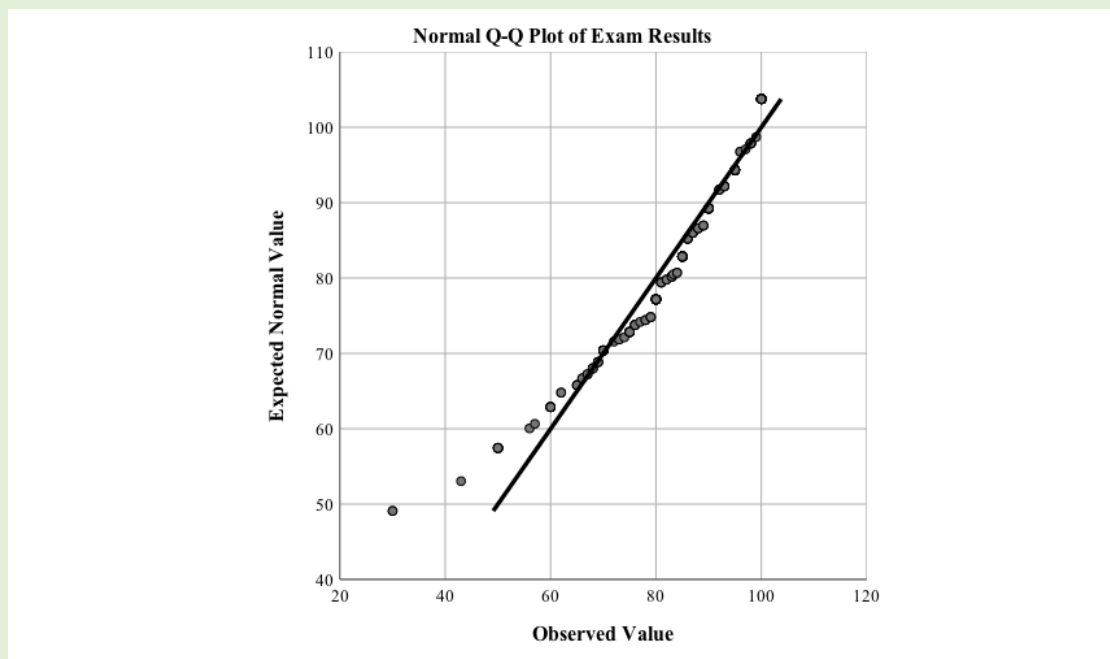


Figure 1. Normal Q-Q Plot of second school pupils' exam results

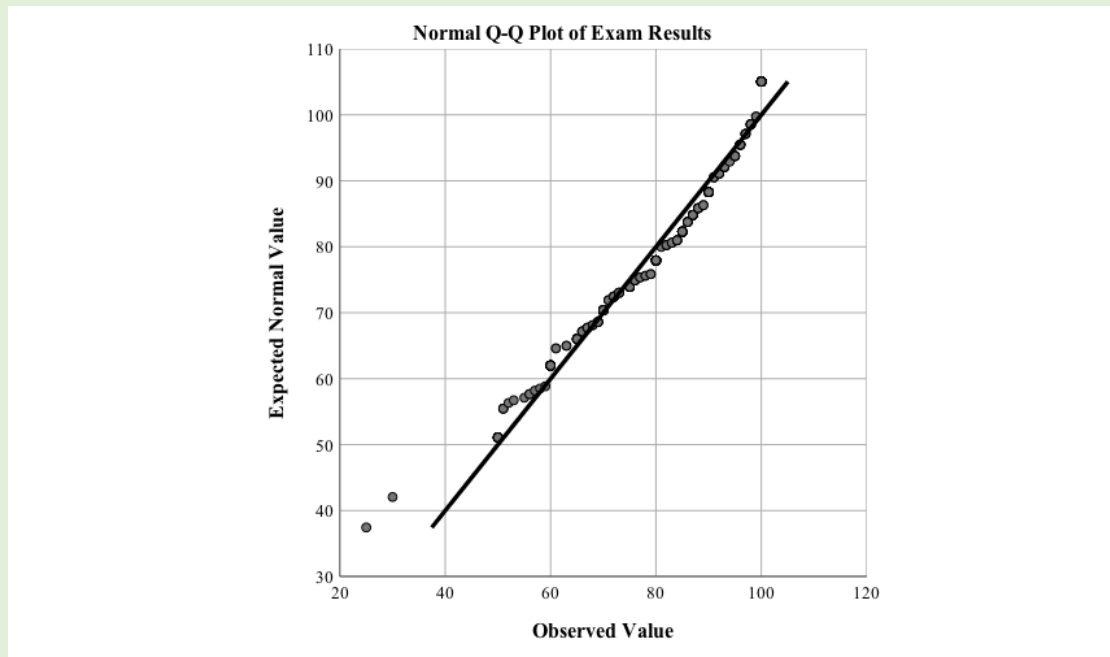


Figure 2. Normal Q-Q Plot for university students' exam results

Results

A preliminary independent *t*-test showed that the participant's gender has no effect on exam results of secondary school pupils ($t(259) = 1.29, p = .19$) but has a significant effect on the exam results of university students with female students obtaining significantly better results than their male peers ($t(307) = 5.41, p < .0001$).

The teacher's gender has a significant effect on secondary school pupils ($t(259) = -3.06, p < .002$), with higher scores for those who had male teachers but it had no effect among university students ($t(307) = .88, p = .87$).

A preliminary Pearson correlation analysis revealed that only 4 out of 12 independent variables were significantly linked to secondary school pupils' exam results (Table 3). In contrast, 11 out of 12 independent variables were significantly linked to university students' exam results (Table 3).

Table 3

Pearson correlation analyses between independent variables and exam results of secondary school pupils and university students

Variable	Secondary school pupils	University students
Age	-.153**	.118*
Number of Languages	.018	.146**
Attitude FL	.180**	.283***
FL Level	.117	.352***
FLE	.097	.285***
FLCA	-.158**	-.204***
Attitude FL Teacher	.127*	.185**
Teacher Age	.105	.124*
Teacher Strictness	-.076	-.038
Teacher Friendliness	.059	.200***
Teacher Frequency FL use	.019	.192**
Teacher foreign accent	-.60	-.140*

* $p < .05$, ** $p < .01$, *** $p < .0001$

The three independent variables that correlated significantly with exam results of the secondary school pupils, and teacher gender, were included in a multiple regression analysis (enter method). A significant regression equation emerged with all four variables predicting 10% of the variance of exam results (Adjusted $R^2 = .101$, $F(4, 256) = 8.277$, $p < .0001$). The strongest predictors of exam results were teacher gender, attitude towards the FL, participant's age, and FLCA (Table 4). The Durbin-Watson value (1.663), the tolerance values (ranging from .992 to .997) and the VIF value (ranging from 1.003 to 1.008) indicated no concern for autocorrelation nor multicollinearity while the normality and residual plots indicated linearity and homoscedasticity.

Table 4

Standardised multiple regression coefficients of the predictors of exam scores of secondary school pupils

Variable	Beta	<i>t</i>	<i>P</i>
Teacher gender	.188	3.176	.002
Attitude FL	.169	2.859	.005
Age	-.158	-2.684	.008
FLCA	-.157	-2.654	.008

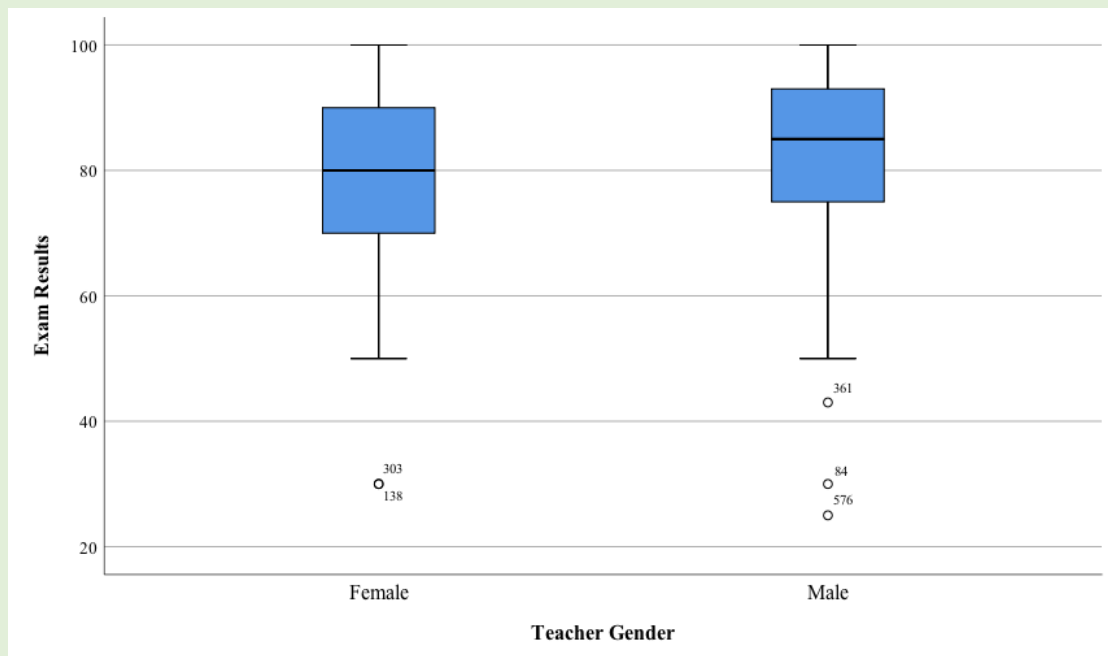


Figure 3. Box graph showing the effect of teacher gender on secondary school pupils' exam results

The eleven independent variables that correlated significantly with exam results of the university students, and participant's gender, were included in a second stepwise multiple regression analysis. A significant regression equation emerged with five variables predicting 31% of the variance of exam results of university students (Adjusted $R^2 = 30.5$, $F(12, 283) = 11.802$, $p < .0001$). The strongest predictors were FL level, participant's gender, FLCA, FLE, and teacher's age (Table 7). The Durbin-

Watson value (1.951), the tolerance values (ranging from .943 to .969) and the VIF values (ranging from 1.032 to 1.061) indicated no concern for autocorrelation nor multicollinearity. The normality and residual plots indicated linearity and homoscedasticity. Seven variables were excluded from the final model: age, number of languages known, attitude towards Turkish, attitudes towards the teacher, teacher's friendliness, frequency of teacher's use of Turkish in class and teacher's foreign accent.

Table 5

Standardised multiple regression coefficients of the predictors of exam scores of university students

Variables	Beta	<i>t</i>	<i>p</i>
FL Level	.293	5.331	.0001
Gender	-.277	-5.515	.0001
FLCA	-.157	-3.011	.003
FLE	.138	2.332	.020
Teacher Age	.145	2.889	.004

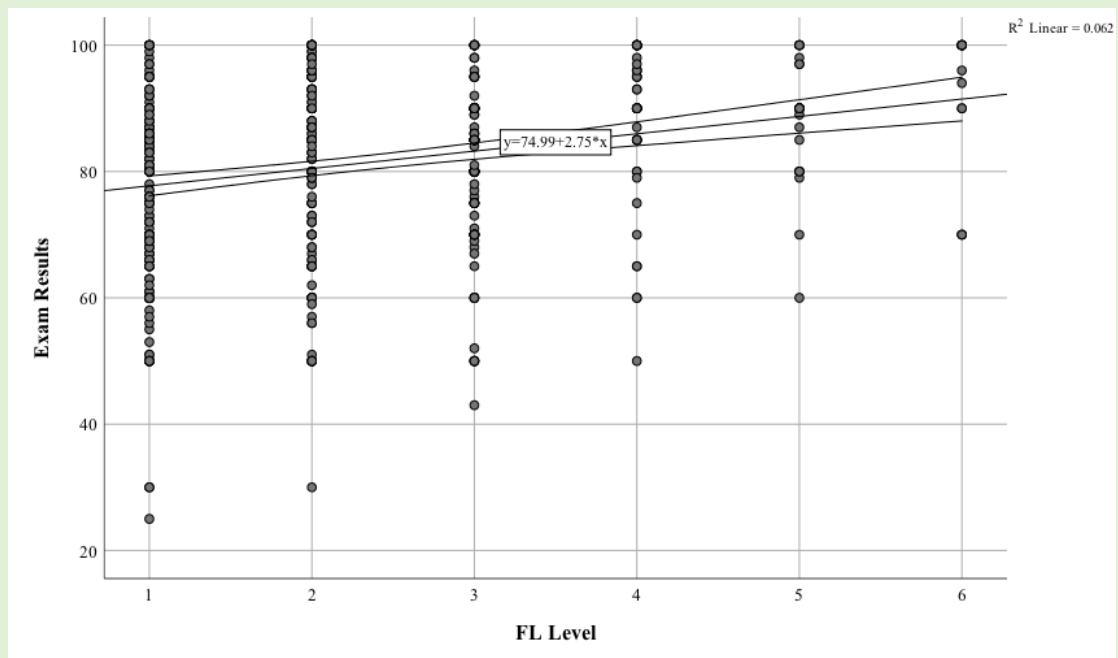


Figure 4. Partial regression plot of exam results and FL Level (A1, A2, B1, B2, C1, C2) (with 95% confidence intervals).

Discussion

Our hypothesis that there would be differences in the predictors of Turkish FL exam results of 257 Kazakh secondary school pupils and 317 university students was confirmed. The statistical analyses revealed that FLCA was the only (negative) predictor of exam results that both groups had in common. Secondary school pupils who had a male teacher, who were younger, who had a more positive attitude towards Turkish and were less anxious in class were more likely to have better exam results. The effect size, 10% of the variance, can be described as very small (Plonsky & Ghanbar, 2018). The teacher gender effect is intriguing but hard to interpret without classroom observation: were the male secondary school teachers pushing their pupils harder to perform well than their female colleagues?

A larger number of predictors were identified for the university students, and the variance explained in exam results (31%) can be described as ranging between a small and medium effect size (Plonsky & Ghanbar, 2018). University students who had a higher level in Turkish, were female, enjoyed their classes more and did not suffer from anxiety too much, and who had older teachers, were more likely to do well in the exams. Our more specific hypothesis is also confirmed as FLCA and FLE are stronger predictors of Turkish FL exam performance among the university learners compared to the exam performance of secondary school pupils.

To establish a list of the independent variables that have a direct effect of exam scores, and an indirect one through classroom emotions, it is worth considering Dewaele, Özdemir, et al. (2019) that looked at all Kazakh learners of Turkish included in the current study. A striking pattern is that teacher behavior, namely friendliness, strictness and frequency of use of the FL, as well as attitude toward the teacher, predicted FLE. Yet, none of these variables predicted variance in exam results in the present study. Having a positive attitude toward the FL and participant's age are the only variables linked to both FLE and FL exam results in the secondary school group, yet, as FLE was not a predictor of exam results in the secondary school group, only a small direct effect exists. Dewaele, Özdemir, et al. (2019) also found

that FLCA was weakly predicted by FL exam results, attitude toward the FL as well teacher friendliness and strictness. It thus seems that only attitude toward the FL had both a direct and an indirect effect (through FLCA) on exam results in the secondary school group, but no indirect effect existed for the university student group as the predictors of FLCA and exam results did not overlap.

The current findings do partly confirm the patterns reported in meta-analyses where FLCA and FLE were found to predict self-perceived FL proficiency and actual achievement (Botes, Greiff & Dewaele, 2020; Botes, Dewaele & Greiff, 2021). The finding of stronger relationships in the university group compared to the secondary school group is very similar to Li et al.'s (2020) finding that relationships between FLE, FLCA and actual English achievement were stronger in the higher achieving groups while neither emotion was significantly linked with English achievement in the low achievement group. The fact that FLCA turned out to be the only emotion in the current study linked to exam results echoes previous studies (Dewaele et al., 2018; Dewaele & Proietti Ergün, 2020a, 2020b; Teimouri et al., 2020; Wei et al., 2019). Only Dewaele and Alfawzan (2018) reported that FLE had a slightly stronger effect than FLCA on FL performance. The negative effect of FLCA could have both longer-term and shorter-term repercussions. Indeed, a high level of FLCA might contribute to a preference for silence and withdrawal in the classroom (Dewaele, 2019; Dewaele & Dewaele, 2018; King & Smith, 2017) impeding long-term progress in the FL. It could also have detrimental effects on FL exam performance.

The current study also reflected the pattern uncovered in Dewaele and Dewaele (2017) with FLCA remaining relatively stable over time but with FLE increasing among older participants. One possible explanation for this is that the university students in the current study, just like the final year pupils in Dewaele and Dewaele (2017), had made a conscious decision to pursue the study of the FL at a higher level and that they were hence more emotionally involved, motivated and engaged in the learning (cf. Dörnyei, 2020). Similar patterns had emerged in Dewaele and MacIntyre (2014) where participants with higher levels in the FL and older participants who were more advanced in their education reported more FLE and less FLCA.

One question is whether the differences in predictors of exam scores in both groups in the current study could be linked to differences in the sociobiographical characteristics of the two groups. Table 1 shows that the university students have higher levels in the FL, and the fact that they are at university is an indication that they are academically gifted. They may therefore have been more likely to have entered a cycle of positive reinforcement, where initial good results lowered their anxiety, reinforced their enjoyment and their motivation to acquire the FL and strengthened their positive attitudes towards the language and the teacher. Fewer secondary school pupils may have reached that threshold for positive reinforcement (Table 2).

The Kazakh teachers of the participants in the present study may feel a little disappointed in discovering that their classroom behavior was unconnected to their learners' exam results. Dewaele, Özdemir, et al. (2019) found that the teachers did shape students' classroom emotions, and may thus have contributed to their mental well-being, which is increasingly recognized as an important goal in FL teaching (Oxford, 2016). It is also likely that teachers' behavior affected learners' goal-directed motivated behavior and action tendencies, which were not part of the present research design, and which has the potential to boost acquisition and performance in the FL (Dewaele & Proietti Ergün, 2020a, 2020b; Dörnyei, 2009, 2020; Gardner, 1985). Finally, the absence of a teacher gender effect on exam performance echoes the finding in Dewaele, Franco Magdalena et al. (2019) that teacher gender had no effect among adult learners. Only a comparison of male and female teacher behaviour in these Kazakh secondary and university classrooms could help unearth a possible cause for this difference. Interpreting the learner gender effect is equally difficult. As Denies (2015) pointed out, in the FL learning context gender is a social rather a biological concept. When female students outperform their male peers, it is often linked to the differential appeal of the students' FL course and by the instrumental, integrative and intrinsic value that students attribute to the FL. Moreover, gender differences can flip in different age groups (Denies, 2015). We can thus speculate that changes in the social contexts of secondary school and university cause a shift in

appeal which make the teacher gender less salient and that of the learners more salient.

Limitations

As both the secondary school pupils and university students came from private and elite institutions, they were likely to come from a high SES background and are therefore not representative of all Kazakh FL learners. Moreover, as participants within these institutions were self-selected, it is likely that a larger proportion of good and happy FL learners chose to fill out the questionnaire, and the resulting sample does hence not represent the general FL learning population (Dewaele, 2018). The dominance of female participants in this type of research is also typical (Dewaele & MacIntyre, 2014) and it requires extra caution in interpreting the findings. There are also strong advantages to participant self-selection, namely better quality of the data because participants care about the topic enough to spend 20 minutes filling out the questionnaire (Dewaele, 2018). A further limitation is inherent to the use of a purely quantitative design. Without the voices of learners, it is impossible to shed light on the causes of the statistical patterns. Finally, we acknowledge that this study is an exploratory investigation and we hope it could be a first step towards more targeted research in this context.

Pedagogical implications

The pedagogical implications are indirect. Although FLE did not predict exam performance among secondary school pupils and although their levels of FLE were slightly lower than those of university students, secondary school teachers should lay the foundation for future blossoming. By focusing on the creation of a positive emotional atmosphere in class (Dewaele, 2020; Dewaele & Li, 2021), teachers can create a circle of positive reinforcement where more FLE and reduced FLCA will contribute to increased motivation and Willingness to Communicate, lower boredom, resulting in higher proficiency and quicker progress to the next level, which may ultimately lead to be better exam performance.

Conclusion

Sociobiographical, attitudinal, emotional and teacher-centred variables were found to have a different effect on the Turkish FL exam performance of Kazakh university students compared to that of secondary school pupils. Although FLCA was found to have a negative effect on exam results in both groups, FLE only had a positive effect in the group of university students. The strongest predictors were sociobiographical variables in both groups while teacher-centred variables turned out to have very little effect on exam performance. This does not mean that secondary school teacher behavior is irrelevant. On the contrary, good teachers create a propitious climate for learners to progress linguistically and to flourish emotionally, the results of which may only become apparent later when learners have to decide whether to pursue the study of the FL in tertiary education. The findings suggest that the Kazakh learners of Turkish who did decide to continue studying the language at university were emotionally involved, engaged, motivated and had acquired the skills and knowledge to excel in their FL exams.

To conclude, the current study shows the epistemological challenges in doing quantitative research. Calculating means for emotions or exam performance can create a false impression of homogeneity in the data and tempt researchers into essentializing them (Dewaele & Pavelescu, 2021). Yet, these means are nothing more than the tip of different icebergs that remain largely out of view. While superficially the differences in means for exam results between secondary school pupils and university students were not that remarkable in the present study, they turned out to be underpinned by different sets of complex interactions between multiple learner-internal and learner-external variables.

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Appendix: FLE and FLCA scales (used in Dewaele et al., 2019)

To what extent do you agree with the following statements about your Turkish language class? *Strongly disagree/ Disagree /Undecided/ Agree /Strongly agree*

FLE (10-item scale)

1. I don't get bored
2. I enjoy it
3. I'm a worthy member of the Turkish language class
4. In my Turkish language class, I feel proud of my accomplishments
5. It's a positive environment
6. It's cool to know Turkish
7. It's fun
8. The peers are nice
9. There is a good atmosphere
10. We laugh a lot

FLCA (8-item scale)

1. Even if I am well prepared for my Turkish class, I feel anxious about it
2. I always feel that the other students speak Turkish better than I do
3. I can feel my heart pounding when I'm going to be called on in the Turkish language class
4. I don't worry about making mistakes in the Turkish language class (reverse code)
5. I feel confident when I speak in the Turkish language class (reverse code)
6. I get nervous and confused when I am speaking in my Turkish language class
7. I start to panic when I have to speak without preparation in the Turkish language class
8. It embarrasses me to volunteer answers in my Turkish language class

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