



Turkish EFL Learners' Motivational Self Systems: A Cross-sectional Study

Simla COURSE^{a*} (ORCID ID - 0000-0003-2977-853X)
Fatma Özlem SAKA^b (ORCID ID - 0000-0003-0647-9983)

^aAkdeniz University, Faculty of Education, Antalya/Türkiye

^bAkdeniz University, Faculty of Education, Antalya/Türkiye



Article Info

DOI: 10.14812/cuefd.1311921

Article history:

Received 09.06.2023

Revised 04.10.2023

Accepted 05.10.2023

Keywords:

English as a Foreign Language,
Language Learning Motivation,
L2 Motivational Self System,
Complex Dynamic Systems Theory.

Research Article

Abstract

This paper reports the findings of a research, with a twofold aim of investigating L2 motivational self system of Turkish EFL learners and exploring how the constructs of this model interact with each other. To this end, we conducted a mixed methods research with 1168 participants from three populations of Turkish EFL learners, secondary school, high school and university students. The findings show that the tripartite mode of L2 motivational self system explains the Turkish EFL learners' language learning motivation and that the constructs of this model contribute towards the language learning motivation following different paths for the three groups of learners from secondary school, high school and university. To investigate the possible changes these constructs undergo over time, language learning motivation trajectories of individual learners were also explored. The findings show that there is a dynamic interplay among these constructs. The findings also indicate patterns and emergence of attractor states in these interactions. Finally, it is found that the attractor states themselves also undergo changes over the learners' trajectories, shaping whilst being shaped by the components of L2 motivational self system

Türkiye'de İngilizceyi Yabancı Dil Olarak Öğrenenlerin Yabancı Dil Benlik Sistemlerinin Kesitsel Desenle İncelenmesi

Makale Bilgisi

DOI: 10.14812/cuefd.1311921

Makale Geçmişi:

Geliş 09.06.2023

Düzeltilme 04.10.2023

Kabul 05.10.2023

Anahtar Kelimeler:

Yabancı Dil Olarak İngilizce,
Dil Öğrenme Motivasyonu,
İkinci Dil Motivasyon Benlik Sistemleri,
Karmaşık Dinamik Sistemler Teorisi.

Araştırma Makalesi

Öz

Bu makale, İngilizceyi yabancı dil olarak öğrenen Türk öğrencilerin ikinci dil motivasyon benlik sistemlerini incelemeyi ve bu modeldeki kurultuların birbirleriyle olan etkileşimlerini anlamayı amaçlayan iki aşamalı bir araştırmanın sonuçlarını raporlamaktadır. Bu amaçla, karma araştırma modeli kullanılan bu çalışmada İngilizceyi yabancı dil olarak öğrenen Türk öğrencilerden, ortaokul, lise ve üniversite öğrencilerinden oluşan üç gruba dâhil 1168 katılımcı yer almıştır. Bulgular, ikinci dil motivasyon benlik sisteminin İngilizceyi yabancı dil olarak öğrenen Türk öğrencilerin motivasyonlarını açıkladığını ve bu modelin kurultularının ortaokul, lise ve üniversite öğrencilerinden oluşan üç farklı grubunun yabancı dil öğrenme motivasyonlarını farklı yollar izleyerek yordadığını göstermektedir. Bu kurultuların zamanla geçirdikleri olası değişimleri incelemek için katılımcıların yabancı dil öğrenme motivasyonlarının gidişizleri de incelenmiştir. Bulgular kurultular arasında dinamik bir etkileşimin olduğunu; bu etkileşimlerde örüntülerin ve değişkenlerin meylettığı çekerlerin ortaya çıktığını göstermektedir. Son olarak, çekerlerin de zamanla dil öğrencilerinin gidişizlerinde değişime uğradığını, ikinci dil motivasyon benlik sistemlerinin bileşenlerince değiştirildiklerini ve bu bileşenleri değiştirdiklerini göstermektedir.

Introduction

Language learning motivation (LLM) has been receiving continuous attention from SLA researchers due to its role in sustaining learning and achievement (Tatar, 2017). While the cognitive approaches to motivation recognise learners' beliefs, expectancies and affect (Eccles & Wigfield, 2002), as human experience and social reality are considered "more nuanced, multileveled and ultimately, complicated" (Block, 2007, p. 13), understanding learners as agents call for an understanding of the learners as active agents, their affordances and self systems. Thus, Dörnyei's tripartite model of L2 motivational self system (L2MSS) has received great attention in SLA. Building on Marcus and Nurius's work (1986) on self system and Higgins' self discrepancy theory (1989), Dörnyei (2009b) proposes L2MSS, a tripartite model of ideal L2 self, ought-to L2 self and learning experience. Ideal L2 self is the learners' vision of who they would like to become in the future with regard to L2. Ought-to L2 self, on the other hand, is learners' perceptions of who they believe they ought to become in the future and how L2 fits in this image (Dörnyei, 2009b). Finally, learning experience refers to the experience of learning the language in and outside the language classroom. This construct includes language teachers, course books, materials, classroom practices and so on (ibid.)

Among the three constructs of L2MSS, ideal L2 self and learning experience are reported to be the strongest predictors of intended learning effort in numerous contexts (Ghanizadeh & Rostami, 2015; Islam et al., 2013; Kormos & Csizer, 2008; Li, 2014; Moskovsky et. al, 2016; Papi & Teimouri, 2012; Papi, 2010; Rasool & Winke, 2019; Ueki & Takeuchi, 2013). Nevertheless, the reports regarding ought-to L2 self are less conclusive. In some contexts ought-to L2 self is reported to contribute to motivated learning behaviour in a limited capacity (Csizer & Kormos, 2009; Islam et. al., 2013; Li, 2014; Moskovsky et. al., 2016; Papi, 2010) or none at all (McEown et al., 2014); while in others it is reported to contribute strongly to motivated behaviour (Ghanizadeh & Rostami, 2015; Hueng et al., 2015; Ueki & Takeuchi, 2013). Yet in some studies this construct yielded low reliability (Csizer & Lukacs, 2010; Kormos & Csizer, 2008; Lamb, 2012).

What seem to be contradictory results regarding ought-to L2 self, however, are not necessarily so considering the dynamic nature of one's self system and its interactions with the components of this system and with the learning context. For example, ought-to L2 self is the strongest predictor of intended learning behaviour in an EFL public school context while its predictive power was much less than that of ideal L2 self in private schools (Ghanizadeh & Rostami, 2015). Similarly, ought-to L2 self was a predictor of intended learning effort for Chinese EFL learners but not for their ESL counterparts (Li, 2014). In the Japanese context, Ueki and Takeuchi (2013) found this construct to be the strongest predictor of non-English major university students, but not for English majors.

Similarly, studies report different results regarding socio-educational model's integrativeness (Gardner, 2007) in L2MSS. This construct predicts ideal L2 self in some studies (Ryan, 2009; Taguchi et al., 2009) while in others, it does not contribute towards LLM (Busse & Williams, 2010; McEown et al., 2014) or is found to have low reliability (Course & Saka, 2021; Islam et. al., 2013; Rasool & Winke, 2019). Findings regarding instrumentality, however, are more consistent in reporting a correlation between instrumentality promotion and ideal L2 self; and between instrumentality prevention and ought-to L2 self (Course & Saka, 2021; Ghanizadeh & Rostami, 2015; Papi & Teimouri, 2012; Taguchi et. al., 2009).

Although L2MSS explains LLM in a number of studies, as reviewed above, these studies predominantly focus on the learners' L2 selves at the time of the research rather than the changes these selves go through in time. Considering the dynamic nature of one's self systems, there is a need to investigate such changes and transformations in learners' L2MSS. One approach that can help trace changes and interactions between components of learners' self systems is complex dynamic systems theory (CDST).

CDST suggests that systems are in constant interaction with other systems, e.g. agents or socio-historical structures, in state space (Larsen-Freeman, 2015) and that components of a system also interact with each other (Chan et al., 2015). The behaviour of a system is ever changing, and complex, i.e. it shapes and it is shaped by its interactions with other systems (Larsen-Freeman, 2015; Ushioda, 2015; Verspoor,

2015). Each of these interactions will form a pattern and some of these patterns will become more salient than others through self-organisation depending on attractor states and repellents (Hiver, 2015). Thus, a system's trajectory is influenced by such interactions and emerging salient patterns in these interactions. Additionally, initial conditions are also instrumental in interactions, patterns, thus, trajectory of a system (Verspoor, 2015). Feedback and perturbations are also critical in a system's self-organisation and adaptation behaviour (Hiver, 2015). Classroom context is shown to provide such feedback (Waning, 2015). Mercer further questions the self as a system and suggests that self can be conceptualised as "a series of nested systems of self constructs" (2015, p. 140). She proposes (2014) that language learners' self systems can accommodate individual, relational and collective selves, i.e. their senses of self defined as different from others, in relation to significant others or as members of a community, in connection with L2. Thus, dynamic interplay of these selves will also impact the LLM trajectories of language learners.

Method

In the light of the research reviewed, this study aims to answer the following questions:

1. Does L2MSS explain language learning motivation of Turkish EFL learners?
2. What changes do L2MSS components undergo in the learners' trajectories of language learning?

As stated above, this research aims to investigate any causal relationship between L2MSS and LLM in the Turkish context and to explore the trajectories of language learners' LLM. Thus, this study is a mixed methods research in which causality is explored through quantitative data to answer the first research question while qualitative data is used to gain a deeper insight on the participants' L2MSS and possible changes the constructs of this system undergo. This design was selected as it provides complementarity of both sets of data (Dörnyei, 2007), which was essential in gaining a more clear and deeper understanding of LLM and L2MSS in this research. The research design, data collection and research instruments were approved by the Social Sciences Research Ethics Committee of Akdeniz University on 25.03.2022, document number 120.

Participants

The total number of participants in this study is 1168. Of this number, 361 were secondary school students, 427 were high school students and 380 were university students. All participants volunteered to participate in the study, giving both oral and written consent. Data was collected from one secondary school with diverse socio-economic backgrounds and learners of mixed achievement. The participants were between the ages of 10-14 and had been studying English for 4-7 years. Two high schools were selected, one with lower socio-economic background and low academic achievement and one with middle socio-economic background and high academic achievement, students were between the ages of 14-18 and had been studying English for 8-11 years. All high school students are required to select a subject of study from the 10th year on. Subject areas available are science and maths, maths and Turkish, social studies and a foreign language. University students had been studying a variety of subjects such as tourism, engineering and teacher training. The majority of the university students had started learning English in the fourth year of primary school and had been learning it for 10 years on average. Table 1 shows the number of participants from each group.

Table 1.
Participants

	Female	Male	Gender not specified	Total
Secondary school	187	173	1	361
High school	194	233	-	427
University	187	193	-	380
Total	568	599	1	1168

Sixteen volunteer participants were also interviewed. Seven of the interviewees were secondary school students, two were in high school and seven were university students. The interviewees were selected representing learners with low and high LLM from each group.

Data Collection Tools

Quantitative data to investigate the L2MSS of the learners was collected using a questionnaire, adopted from Taguchi et al. (2009) and translated into Turkish by Course and Saka (2021). The questionnaire had 43 questions and included ten subscales (Table 2). Respondents were asked to answer each question on a scale from one to six, one being 'strongly disagree' and six being 'strongly agree'.

Qualitative data were collected using semi-structured interviews. At the beginning of each interview, the researcher inquired about the participants' individual language learning histories. To this end, the researcher started each interview with questions about when the interviewees started learning English, how long they had been learning English, if anything was motivating/demotivating in this process. In addition, to get detailed information on each interviewee's LLM trajectory, the fluctuations in these trajectories and their perceived reasons for these fluctuations, additional questions were asked based on each participant's individual responses. The interview questions also specifically inquired about the interviewees' learning experiences, ideal L2 selves and ought-to L2 selves, with the researcher asking about the participants' images of themselves in the future, the role of English in these images and the role of friends and family in their possible selves. All questions were open-ended, and all interviews were recorded, with the interviewees' consent. The interviews lasted between 19-27 minutes. All names used in this paper are pseudonyms, with secondary school students choosing their pseudonyms themselves upon their request to do so.

Data Analysis

To analyse the quantitative data, first, Cronbach's Alpha was used to test the reliability of the questionnaire and its subscales. Questionnaire data were then tested for normality. The skewness and kurtosis values were found to be within the acceptable range of ± 2 , for all groups, with one exception, the kurtosis value of instrumentality promotion for university students was +4.49. Therefore, to compare the responses of three populations, we used a nonparametric test, Kruskal Wallis. Next, before proceeding to do a linear regression analysis, we checked multicollinearity and all VIF values are found to be within the acceptable range (Tables 4-7). Thus, linear regression analysis was conducted for all three groups to investigate the causal relationship between L2MSS and learners' LLM. All statistical analysis was done using SPSS.

Semi-structured interview questions were designed following a comprehensive literature review for content and construct validity to inquire the motivational trajectories of each interviewee. Next, interviews were transcribed and to avoid a reductionist analysis of the qualitative data, inductive analysis was carried out. Each interviewee's motivational trajectory was analysed individually. To this end, individual interviewees' motivational trajectories and any changes in these trajectories were mapped. Next, repeating patterns and emerging themes in these patterns were noted to get a better understanding of the self-organisation of the interviewees' L2MSS. For example, if one trajectory showed repeating motivational patterns in relation to an interest in communicating with other speakers of English, 'communication' was noted as an emerging theme in that interviewee's trajectory. Then, relevant themes across interviews were grouped and coded. For example, the themes 'good teacher', 'teacher as a role model', 'approachable teacher' were grouped together and coded as 'English teacher', which was then grouped together with 'games', 'speaking', and 'songs' and given the code 'learning experience'. Following the analysis of the interviews, a second researcher was also invited to analyse the data for interrater reliability and both researchers' analysis showed agreement. After each interview, the interviewer summarised her notes and checked with the interviewees if her understanding of their trajectories was accurate.

Findings

First, the findings from the quantitative data will be presented followed by the findings from the qualitative data.

Quantitative data

Reliability coefficients of all subscales are found to be within the acceptable range, except for integrativeness, which was excluded from further analysis (Table 2).

Table 2.
Cronbach's Alpha Reliability Coefficients

Subscales	No of items	Secondary school	High School	University	All groups
Intended learning effort	5	.86	.79	.78	.81
Ideal L2 self	4	.86	.84	.82	.85
Ought-to L2 self	6	.78	.74	.76	.76
Attitudes to learning English	4	.83	.76	.72	.78
Family influence	5	.64	.70	.74	.70
Instrumentality promotion	4	.84	.77	.81	.81
Instrumentality prevention	4	.68	.67	.74	.70
Integrativeness	3	.67	.51	.41	.54
Cultural interest	4	.72	.79	.72	.74
Attitudes to L2 community	4	.82	.74	.75	.77

Next, data were analysed using Kruskal-Wallis to find out statistically significant differences among the three populations and post-hoc tests were used for pairwise comparisons. As multiple tests were carried out, Bonferroni correction was used for post-hoc comparisons. The findings are presented in Table 3.

Table 3.
Comparison of Three Groups

Scale	Group	Mean	SD	H	Sequence	Effect size (η^2)
Intended learning effort	Secondary	4.09	1.39	3.15	S>H*	.01
	High school	3.88	1.14	-2.56	U>H**	.009
	University	4.08	1.13			
Ideal L2 self	Secondary	4.52	1.42	-3.98	U>S***	.02
	High school	4.77	1.18			
	University	4.97	1.04			
Ought-to L2 self	Secondary	4.00	1.15	2.67	S>H*	.008
	High school	3.92	.99	-4.88	U>H***	.03
	University	4.29	.96			
Attitudes to learning English	Secondary	4.36	1.42	6.50	S>H***	.04
	High school	3.80	1.20	4.53	S>U***	.03
	University	3.96	1.11			
Family influence	Secondary	4.10	1.11	-	-	-
	High school	3.98	1.03			
	University	3.98	1.08			
Instrumentality promotion	Secondary	5.07	1.19	-2.64	U>S*	.009
	High school	5.32	.86			
	University	5.31	.094			
Instrumentality prevention	Secondary	4.37	1.19	7.97	S>H***	.08
	High school	3.65	1.20	-6.13	U>H***	.04
	University	4.16	1.31			

Attitudes to L2 community	Secondary	4.58	1.33	-2.83	U>S*	.01
	High school	4.72	1.07			
	University	4.89	.94			
Cultural interest	Secondary	4.27	1.32	-4.50	H>S***	.02
	High school	4.66	1.20			
	University	4.52	1.07			

* p< .05, ** p< .01, *** p< .001

Highest mean values for all groups were observed for instrumentality promotion. Regarding the statistical differences among variables, it was found that secondary school and university students' scores for criterion measures, ought-to L2 self and instrumentality prevention are significantly higher than those of high school students. Secondary school students' scores for attitudes to learning English are significantly higher than the other populations while university and high school students scored significantly higher for cultural interest and attitudes towards the L2 community. Finally, university students have scored significantly higher than secondary school students for ideal L2 self and instrumentality promotion. The only difference that had a medium effect size is observed between secondary and high school students' instrumentality prevention. Remaining differences have either small ($\eta^2 < .06$) or less than small effect size ($\eta^2 < .01$).

Table 4.

Results of Multiple Regression Analysis with Intended Learning Effort as the Dependent Variable

Variable	Secondary School				High School				University			
	B	SE B	β	VIF	B	SE B	β	VIF	B	SE B	β	VIF
Attitudes to learning English	.63	.05	.52* **	1.98	.54	.05	.46* **	1.42	.6	.06	.47* **	1.45
Ideal L2 self	.33	.05	.28* **	2.12	.25	.05	.20* **	1.77	.21	.07	.15* *	1.85
Family influence	.14	.04	.11* **	1.14	-	-	-	-	-	-	-	-
Ought-to L2 self	-	-	-	-	.08	.04	.09*	1.60	.15	.04	.18* **	1.49
Cultural interest	.15	.05	.11* *	.173	-	-	-	-	-	-	-	-
Instrumentality prevention	-	-	-	-	.11	.05	.09*	1.39	-.13	.05	- .12* *	1.30
Attitudes to L2 community	-	-	-	-	.21	.06	.16* *	1.88	.16	.07	.11* *	1.78
Adjusted R ²	.72				.54				.48			
F for change in R ²	9.65				5.50				4.72			

* p< .05, ** p< .01, *** p< .001

As shown in Table 4, learning experience was by far the strongest predictor of intended learning behaviour of all learners in the final models. Ideal L2 self also contributes to intended learning behaviour for all three groups. Ought-to L2 self and instrumentality prevention explain motivated behaviour of high school and university students. Interestingly, however, instrumentality prevention negatively predicts motivated behaviour of university students. While these two variables are missing in the final model of the secondary school learners, family influence contributes towards the motivated learning behaviour for this group. Finally, cultural interest for secondary school students and attitudes to L2 community for the other groups contribute towards the dependent variable in the final model.

Table 5.
Results of Multiple Regression Analysis with Ideal L2 Self as the Dependent Variable

Variable	Secondary School				High School				University			
	B	SE B	β	VIF	B	SE B	β	VIF	B	SE B	β	VIF
Attitudes to learning English	.19	.04	.19* **	2.04	.15	.04	.15* **	1.39	.16	.04	.17* **	1.65
Instrumentality promotion	.36	.05	.31* **	2.03	.51	.05	.38* **	1.59	.5	.05	.45* **	1.75
Ought-to L2 self	-	-	-	-	.06	.03	.08*	1.63	-	-	-	-
Instrumentality prevention	-	-	-	-	-.15	.04	- .15* **	1.34	-	-	-	-
Attitudes to L2 community	.4	.05	.37* **	2.91	.19	.05	.17* **	2.17	.14	.05	.13* *	2.10
Cultural interest	.1	.4	.09*	1.92	.22	.04	.22* **	1.68	.23	.04	.24* **	1.49
Adjusted R ²	.68				.57				.61			
F for change in R ²	4.99				3.97				7.64			

* p< .05, ** p< .01, *** p< .001

The results of the regression analysis with ideal L2 self as the dependent variable (Table 5) show that instrumentality promotion, attitudes towards learning English, attitudes towards L2 community and cultural interest contribute towards intended learning behaviour for all three groups. For high school students, however, ought-to L2 self and instrumentality prevention also predict ideal L2 self, although the latter's predictive power is negative. This construct is more strongly predicted by instrumentality promotion and the variables related to L2 community and culture for all three populations.

Table 6.
Results of Multiple Regression Analysis with Ought-to L2 Self as the Dependent Variable

Variable	Secondary School				High School				University			
	B	SE B	β	VIF	B	SE B	β	VIF	B	SE B	β	VIF
Attitudes to learning English	.25	.05	.2** *	1.10	-	-	-	-	.15	.06	.1*	1.28
Instrumentality promotion	-	-	-	-	.16	.07	.09*	1.52	-	-	-	-
Family influence	.51	.05	.4** *	1.29	.554	.05	.44* **	1.2	.66	.05	.54* **	1.19
Instrumentality prevention	.62	.06	.41* **	1.3	.46	.05	.35* **	1.07	.36	.05	.28* **	1.11
Attitudes to L2 community	-	-	-	-	.28	.06	.19* **	1.49	.21	.07	.12* *	1.32
Adjusted R ²	.58				.54				.56			
F for change in R ²	.04				4.46				6.39			

* p< .05, ** p< .01, *** p< .001

Table 6 shows the results of the regression model with ought-to L2 self as the dependent variable. Instrumentality prevention and family influence are the two strongest predictors of ought-to L2 self in the final models of all three groups. This construct is also explained by attitudes to learning English for secondary school and university students; instrumentality promotion for high school students and attitudes towards L2 community for high school and university students. Instrumentality promotion and attitudes towards learning English have the weakest explanatory power for this construct.

Table 7.
Results of Multiple Regression Analysis with Attitudes to Learning English as the Dependent Variable

Variable	Secondary School				High School				University			
	B	SE B	β	VIF	B	SE B	β	VIF	B	SE B	β	VIF
Family influence	-.12	.05	-.12*	1.7	-	-	-	-	-	-	-	-
Instrumentality promotion	.15	.06	.13*	2.34	-	-	-	-	-	-	-	-
Ought-to L2 self	.13	.04	.16* *	1.81	.08	.03	.11* *	1.18	.1	.03	.15* *	1.10
Attitudes to L2 community	.29	.07	.27* **	3.23	.36	.06	.32* **	1.73	-	-	-	-
Cultural interest	.15	.05	.14* *	1.90	-	-	-	-	.37	.05	.36* **	1.53
Ideal L2 self	.26	.06	.26* **	3.07	.23	.05	.22* **	1.61	.28	.06	.26* **	1.59
Adjusted R ²	.54				.29				.37			
F for change in R ²	5.61				5.54				11.7			

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 7 shows the results of the regression models for attitudes towards learning English as the dependent variable. As presented in Table 7, these models only explain 54%, 29% and 37% of the variance in the learning experience of the secondary school, high school and university students respectively. Yet, all three models indicate ideal L2 self and ought-to L2 self as predictors of learning experience. Interestingly, family influence negatively predicts secondary school learners' learning experience. In addition, the strongest predictors of this construct are related to the L2 community and culture, followed by ideal L2 self for all three populations.

The multiple regression analysis' results, presented above, provide information about the LLM and L2MSS as a model. The results also show changes in the investigated constructs among three populations. Although some of these findings support the findings of past research, as will be discussed below, these analysis do not provide information on the trajectories of these changes. To get a deeper understanding of these changes, we conducted interviews, the findings of which will be presented next.

Qualitative data

As remarked above, each interviewee's motivational trajectory was mapped individually to trace the patterns in the self-organisation of their LLM. Hoping to be able to paint a fuller picture of these trajectories, first we present our findings regarding the initial conditions of LLM for these learners. Next, we focus on the emerging patterns in the self-organisation of LLM of individual interviewees.

1. Initial conditions

At the beginning of the participants' English language learning, all learners but two were highly motivated due to learning experience. These were either classroom practices such as songs, games, competition, or due to the teachers themselves. The interviewees reported that they enjoyed being able to understand and talk in a new language. They also referred to their "good teachers" (of English language) who were also "good people" or "role models". As learners progressed to secondary school, learning experience had the opposite effect. Learners were mostly expected to memorise long lists of vocabulary items and grammar rules. Learning experience was also shaped by a strong washback effect of an end-of secondary school exam.

Benzema: "We just memorise (words and grammar rules) in our English lessons."

O: "I have a question. Am I studying English just to pass the exams? I would like to learn English to speak it. For example I must pass this exam, right? I must pass so I won't lose a year. That's why we study English; but there shouldn't be exams so we can actually learn (to speak English)."

Secondary school students repeatedly brought up communication in English on multiple occasions. For some learners, communication was relevant to their ideal L2 self as international travellers:

Derin: "At the moment I just memorise English (words and rules). (But) when I visit the UK, the USA, how am I going to speak it?"

Others reported that they will need to speak English for employment, referring to their ideal L2 selves as young professionals with respectable jobs; pointing out the complementary nature of ideal L2 self and ought-to L2 self. For O, Luffy, Pelin and Benzema, on the other hand, communication was important for their current selves as they have English-speaking friends visiting or living in Antalya or they interact with English-speakers online. At the time of the study, secondary school interviewees all expressed intentions to carry on learning English.

Bilge, a science teacher trainee, on the other hand, reported that her learning experience resulted in loss of motivation after primary school. Her secondary school teacher was "very strict" and because Bilge "didn't like her (new) teacher" she has developed a "bias against" learning English. Consequently, she struggled in her English lessons in the following years and to avoid the sense of inadequacy she experienced in these lessons, she stopped trying to learn the language. At this point learning experience became a repellent and she acted to avoid it in order to maintain her sense of self as a competent person. Metin, a high school student, reported very similar experiences with learning experience as a repellent. However, a recent plan for a family vacation to Italy mobilized Metin to enroll in a language school.

In all the secondary school students' and Metin's interviews, communication was the attractor state that they referred to for persisting in wanting to learn English in spite of the perturbation of secondary school learning experience. This attractor state was connected to learners' possible selves as travelers or young professionals and to current social components of the learners. This attractor state maintained intended learning behaviour in spite of the perturbation of learning experience in secondary school at the time of the study. Yet, considering the data from Bilge's interview, it is difficult to claim that this is a strong enough attractor to maintain LLM through years-long English education in the absence of other attractors or interactions with other system components. To get a better understanding of such interactions, we now turn our attention to the data from participants who have reached a higher level of stability (Verspoor, 2015) in LLM and who have developed more intricate and complex web of connections in their self systems with regard to L2.

2. Cem

Communication was an attractor state for Cem also, an ELT student, at the beginning of his learning experience. His classmates were mostly non-Turkish speakers so he was motivated to learn English to communicate with them. He also described his then-self as a "child that loved technology". He was highly interested in and good at using social media and video sharing platforms from a young age. Communication was reinforced through his then self as a technologically able child and through their interaction, he developed linguistic confidence. In high school, he was required to choose a subject area of study and he "was not very good at other subject areas". This requirement functioned as a repellent reinforcing the attractor state of linguistic confidence. Arguably, this was a deeply seated attractor state because shortly after he made his decision, he was informed that his school would not be able to offer him a foreign language study programme. He then had to convince his parents, who wanted him to study another subject, to help him find another school.

As a high school student, he encountered another perturbation, the Covid-19 pandemic, which cut him off from his social circle. During the lockdown, he saw a short video of a skateboard on social media, which gave him an idea for an outdoor activity. He then met with other skateboarders in Antalya, where he resides.

"I again acquired a peer community (of skateboarders). I had an English speaking peer community because the skateboarders in Antalya are mostly from Ukraine but from other countries too, even from the USA. I speak to them in English so skateboarding also helped me improve my English."

Thus, he formed a new sense of self as a skateboarder. This sense of self, interacting with the attractor state of communication gave rise to a new sense of self as a compassionate human:

"I've achieved a lot for myself because of skateboarding ... Mentally... I mean my perspective broadened. I became more considerate, understanding because I've met a lot of people via skateboarding. And hearing their stories, my perspective broadened. I think skateboarding made me a better person."

He reported that his parents want him to study for a Masters degree. His ideal L2 self is in connection with this ought-to L2 self, the attractor state of high linguistic confidence and his self as a skateboarder. He plans to do a postgraduate degree in the USA.

"And the reason I'm drawn to the USA is because it is the birthplace of skateboarding and the place it is most popular in."

This was a vivid vision of ideal L2 self with plans of where to live, challenges he might have as a foreigner, where and what to study and plans of applications for postgraduate degrees. However, this was a relatively recent vision of his future self. It was not present at the beginning of his studies or even his university degree. This vivid ideal L2 self emerged as a result of interactions between his then-selves, system components, such as social components, school requirements, and family expectations. Thus, the initial attractor state of communication did not stay in its initial form to communicate with his classmates; but it evolved over time and played a role in shaping his possible selves.

3. Tara and Baha

Tara's initial LLM was formed as part of her then-relative self. She reported that she wanted to learn English at a very young age because of her older sister, who had high LLM. They both had plans to go abroad together from an early age. This was a very strong and vivid image of ideal L2 self for Tara, which she says she frequently visited. This initial attractor state of visiting and living abroad with her sister was reinforced through her online interactions with other English speakers and through cultural interest. Similar to Cem, through the interaction between her ideal L2 self and cultural interest and communication, she developed high linguistic competence. Through these interactions, and her realisation that she could speak English, the possibility of living abroad became plausible and remained in her working self. Tara remarks that high linguistic confidence was connected to another attractor for her, competence:

"I would feel like 'I can really speak'. And that ...I could now do something that I couldn't do before."

One interesting finding was first suggested by Tara. She reported that she struggled with social anxiety and that she liked speaking in English because she feels that she can express herself better in English. Tara is an EFL learner with a proficiency level of B2-C1. Therefore, her preference of L2 over L1 was not based on linguistic competence. She reported that when she speaks about personal topics with affiliations of negative affect, she prefers to speak in English because she feels like she is approaching these topics over "another person", distancing herself from such topics. Thus, for Tara, the initial attractor state of communication for building social relationships takes a different form. In connection with this attractor state, she formed an L2 self that she evokes when she approaches personal topics.

The initial conditions for Baha's LLM was also determined by his classroom learning experience, he enjoyed his English lessons. Later on, interaction between his cultural interest and communication in L2 with non-Turkish speakers followed a similar trajectory to Cem and Tara. He developed linguistic confidence which became an attractor state following the perturbation of having to choose a subject area of study at high school. Similar to Tara, Baha also reported that he evokes his L2 self when he feels insecure. He is not confident when he speaks in Turkish, his L1. He believes he cannot express himself well enough in Turkish sometimes due to lack of topic knowledge. His position as an outsider, a non-native speaker, however, provides a leeway for his self-perceived lack of expertise in a topic:

Baha: *"When I don't know much about a subject, the other person (his interlocutor) can question every detail and I sometimes don't know how to express myself. But English is different."*

Interviewer: *"How is it different?"*

Baha: *“English is like a barrier. You can explain something in a very simple way. It depends on how much one can speak (the language).”*

So his identity as a non-native user of English, helps him adopt an outsider position where he will be safe from a perceived possibility of criticism from his interlocutors. However, English is not seated in his current self only due to its connection to his self-confidence. It also helps him position himself as part of a wider community of fellow humans:

Baha: *“Before I could speak English, I used to feel very lonely. It was just me and my family. OK, and we live in Turkey. That was it... But later I realised that the world is very big... and beautiful ... My brother visited Greece for an Erasmus project. They performed theatre plays in each other’s languages. And they are still in touch.”*

4. Saba

Saba is also currently studying to be an English teacher. Although her high LLM was first due to her learning experience in primary school, soon communication became an attractor state. However, unlike the other interviewees, communication in English was a possible means for her to change the power relations she found herself in. Saba was identified as a gifted child. She skipped a year and enrolled in the second year of primary school. Being younger, smaller and academically more successful than her peers, she was ostracised throughout her education. She believed that if she could teach her classmates to communicate in this new medium, perhaps they could understand each other better and she could be socially accepted. Thus, communication became an attractor state for her. Unfortunately, her high school could not offer her a foreign language programme. Therefore, despite her reportedly high LLM at the time, she went on to study psychological counselling at university, but she maintained a high LLM and in the last year of her studies, she quit her degree to go back to learning English. She then spent an extraordinary amount of time and effort to learn English by herself. When asked why she quit her first degree and extended so much effort and time to study English, she answered that English is an additional medium in which she “can express herself”.

Saba: *“I believe communication is very difficult even in one’s own language. When you manage to understand each other, you feel good about yourself ...When you see that you can do this in another language, you become aware that you can understand one another in your native language too.”*

So communication was a very strong attractor state for her. It has also changed shape in that communication and learning/ speaking English is not limited to reaching out to her peers, but about the possibility of understanding one another in L2 or L1.

Discussion & Conclusion

Learners’ responses to the questionnaire show that learning experience returned the lowest mean values for university students, second lowest for high school, and fifth lowest for secondary school students. In the light of the data from the interviews, we would like to argue that this is due to the learners’ frustration with their classroom learning experience after primary school education. Although, secondary school learners still express a positive attitude to learning English, as the amount of time exposed to classroom learning experience that does not meet their expectations increase, their attitudes to learning English decrease. Furthermore, mean values for ought-to L2 self, family influence, and instrumentality prevention, are lower than instrumentality promotion and ideal L2 self for all groups, suggesting that the learners as young as secondary school students develop a sense of ideal L2 self and that they are aware of the role of English as a cultural capital.

The results of the regression analysis show that L2MSS explains LLM of Turkish EFL learners as it explained the variance of intended learning effort for 72% of secondary school students, 54% of high school students and 48% of university students. Our findings also support the findings of past studies in that learning experience and ideal L2 self are strong predictors of intended learning behaviour (Csizer & Kormos, 2009; Csizer & Lukacs, 2010; Ghanizadeh & Rostami, 2015; Islam et. al., 2013; Kormos & Csizer, 2008; Li, 2014; Papi & Teimouri, 2012; Rasool & Winke, 2019; Taguchi et. al. 2009). As reviewed above

ought-to L2 self was found to either be insignificant in predicting LLM or found to have low reliability in some studies. In this study, however, it was found to predict intended learning effort of high school and university students; while family influence, a predictor of ought-to L2 self, was found to predict intended learning effort of secondary school learners. Moreover, considering that ideal L2 self is a powerful contributor of learning experience for all three populations, we would like to suggest that ideal L2 self influences intended learning behaviour both directly and indirectly through learning experience. Therefore, we would like to suggest that all three components of L2MSS are instrumental in explaining Turkish EFL learners' LLM.

We also analysed the causal relationship among the three main components of L2MSS. Instrumentality promotion was found to be a very strong predictor of ideal L2 self, supporting past research (Ghanizadeh & Rostami, 2015; Islam et. al, 2013; Papi & Teimouri, 2012; Taguchi et. al., 2009). In addition, the construct of attitudes to L2 community was also found to contribute to ideal L2 self; and instrumentality prevention and family influence were found to predict ought-to L2 self (Csizer & Kormos, 2009; Ghanizadeh & Rostami, 2015; Islam et al., 2013; Papi & Teimouri, 2012; Taguchi et al. 2009). Similar to the findings of Kormos and Csizer (2008), we also found that cultural interest contributes to ideal L2 self of older learners, i.e. high school and university students. Finally, learning experience was predicted by ideal L2 self and ought-to L2 self for all three groups. Learning experience was further predicted by the students' approach to L2 community or culture for all three populations. The results show that instrumentality does not play a role in learning experience except for instrumentality promotion for the youngest population. Given that instrumentality promotion was the strongest contributor of ideal L2 self for high school and university learners; it is possible that instrumentality promotion is mediated through ideal L2 self and learning experience for these groups. These findings show that learning experience, ideal L2 self and ought-to L2 self are different domains contributing towards motivated behaviour of Turkish EFL learners. In addition, the analysis exploring the relationship between these constructs show that they are in interaction with each other, predicting and contributing towards each other. To better understand these interactions, we conducted interviews.

The finding that learning experience impacts LLM greatly is echoed by the interview data. The findings suggest that specifically classroom practices and/or English teachers play an important role in LLM. However, the findings also show that LLM does not follow a linear causal path but is subject to many changes and transformations. Especially for highly motivated EFL learners, L2MSS components interact with each other, form new components or new current and possible L2 selves in a dynamic process, suggesting L2MSS is a complex dynamic system (Chan et al., 2015; Larsen-Freeman, 2015; Ushioda, 2015; Verspoor, 2015)

In the interview data, communication emerges as an important attractor state for LLM for participants from all three groups. For secondary school and high school students, it was compartmentalized in that its relevance was limited to the interviewees' possible selves and social component of their actual selves without further interactions with the learners' self systems. For highly motivated learners, on the other hand, communication was found to interact with L2MSS components and give rise to other attractor states such as linguistic confidence and/or developing competence. Provided that these attractor states are strong enough, a perturbation, e.g., choosing a subject area of study in high school or the pandemic, reinforces these attractor states; as the feared self, e.g., academically unsuccessful self or isolated self, act as a repellent. Thus, in this study the attractor state of communication, with positive feedback, gave rise to other attractor states. These attractors states then gave rise to new individual ideal L2 selves such as an international postgraduate student or a compassionate human who explores the bounds and possibility of human communication. Furthermore, interactions of emerging selves, e.g., a skateboarder, with other L2MSS components, e.g., family expectations and school requirements, gave rise to new and vivid ideal L2 selves. Thus, the findings point out that ideal L2 self and ought-to L2 self are not mutually exclusive but are complementary and fluid. We would also like to argue that although communication was a commonly strong attractor for the participants initially, continued lack of positive feedback for this attractor state bears the risk of it losing strength, as was the case with Bilge.

Attractor states themselves were also found to change (Henry, 2015). The initial attractor state of communication in English to talk to non-Turkish speakers changed for all highly motivated learners to become a means to gain a deeper understanding of themselves and fellow humans. For two learners, this trajectory resulted in formation of distinct L2 selves employed as a means of detachment in representation of their selves. For one learner, the initial attractor state of communication was strong enough for her to go back to learning English after the interception of another degree at university. Yet, this strong attractor state also transformed from a means for social acceptance by peers to being the means to explore the possibility of communication in general. Thus, the findings point out that learners' self systems are not static but are in constant change. Although these changes have common attractors such as communication, perturbations and interactions of L2MSS components give way to individual LLM trajectories, through each system's self organisation (Hiver, 2015).

The strong attractor state of communication for the Turkish EFL learners have implications for classroom practices. We suggest that material and curriculum developers and most importantly EFL teachers provide positive feedback for this attractor state. The findings regarding the dynamic system of LLM also have implications for further research on LLM. L2MSS constructs are found to predict LLM for all three groups. However, L2MSS components are also found to transform and change over time. Thus, there is a need for further research to look into these interactions and changes to explore emerging patterns.

Author Contribution Rates

The authors contributed equally to the study.

Ethical Declaration

All rules included in the "Directive for Scientific Research and Publication Ethics in Higher Education Institutions" have been adhered to, and none of the "Actions Contrary to Scientific Research and Publication Ethics" included in the second section of the Directive have been implemented.

The research design, data collection and research instruments were approved by the Social Sciences Research Ethics Committee of Akdeniz University on 25.03.2022, document number 120.

Conflict Statement

The authors declare no competing interests.

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