



Motivational Dynamics in Foreign Language Learning: Motivated Learning Behavior, Proficiency, and Gender

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Abstract

Motivational development can no longer be considered as the stable phenomenon as it was considered in the past. It is now an element of individual difference which is constantly influenced by contextual factors. This study applied a dynamic system perspective and drew upon Dörnyei's (2005) L2 Motivational Self-System to examine both male and female Iranian EFL learners' motivational and behavioral variability over time with different levels of proficiency. To this end, 590 beginner to upper intermediate male and female students completed the Motivational Factors Questionnaire at one-month intervals during the semester. The results indicated that the students' motivation could possibly be explored under dynamic systems' principles. The findings demonstrated how students' motivation changed over time and how it could be predicted in a moderately stable manner. The outcomes also showed that students' motivational and behavioral developments were mediated by their proficiency levels and gender. Implications and directions for further research were also stated.

Keywords: dynamic systems, ideal L2 self, L2 learning experience, motivated learning behavior, Motivation, ought-to L2 Self,

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Introduction

Dynamic view toward language learning stating cause-effect relationships can no longer justify all the complex patterns in second/foreign language development. This does not denote that systems are always in their unpredictable states but rather it is possible to recognize the fixed stages and frequent structures of the system's variations, implying that predictability is no longer significant. Individual differences (IDs) including motivation, personality traits, aptitude, and attitudes deal with variations in the process of language development (Dörnyei, 2005; Roberts & Meyer, 2012). Some scholars have focused on the investigation of different ways individual differences interrelate with each other and with the external environment dynamically (Dörnyei, 2010).

Motivation is treated as the driving force that enables individuals to proceed against learning. Without motivation, even learners with the highest degree of language aptitude cannot achieve their goals. The motivation construct might compensate for existing shortcomings in learners' capabilities (Dörnyei et al., 2015). Different L2 motivational theories were presented over the past decades. Undoubtedly, the most influential one refers to Dörnyei's (2005) theory of L2 Motivational Self System (L2MSS) that has been examined in the current study. Learners' intended effort is an important construct that could predict other outcomes such as educational achievements and motivation. It relates to students' efforts to acquire a foreign or second language (Wen, 2011). The relationship between different levels of proficiency and motivation considering the role of gender has been also stipulated in different research studies.

With regard to individual differences, a dynamic perspective focuses on a shift from fixed and rigid status to dynamic and multi-componential materials. de Bot (2015) states the motivational patterns differ over various time spans. To examine such issues empirically and investigate whether the outcomes are consistent with dynamic oriented approach, this study applied a dynamic perspective to examine Iranian EFL students' motivational variability/stability over time at varying proficiency. It should be noted that learners' motivation (including ideal L2 self, ought-to L2 self, and L2 learning experience) and their motivated learning behavior (i.e., intended effort) were considered as the foci of the study, while their proficiency level and gender were treated as the moderating variables.

Review of the Related Literature

Dynamic Systems Theory (DST)

Dynamic System Theory has been devised to explain the behavior of the system by taking interactions between various components into account (Rind, 1999). In DST, the behavior of the system cannot be understood by analyzing the constituents alone rather the internal and external resources are to be considered as well. As confirmed by Ushioda (2009), dynamic system theory views learners as real persons having the authority to make changes in environment rather than being theoretical abstractions. Causal relationships between variables have no place in DST as it takes a holistic view towards variability to explain “how the interaction of the parts lead to the new behavior” (Larsen-Freeman & Cameron, 2008, P. 231).

Larsen–Freeman (1997) believed DST is characterized as “dynamic, complex, nonlinear, chaotic, unpredictable, sensitive to initial conditions, open, self-organizing, feedback sensitive, and adaptive” (p. 142). To perceive some of the basic features of dynamic system theory, three key features of system dynamics including *change*, *context*, and *attractor state* were addressed in this paper. *Change* refers to the constant variations to the system state (i.e., variables under investigation at a particular span of time). Such changes are usually nonlinear as confirmed by Spoelman and Verspoor (2010). It emphasizes the fact that changes in output cannot be predicted proportionate to changes in the received input. A closely related concept introduced by Waninge et al. (2014) is the butterfly effect denoting that sometimes a great amount of input has little or no influence, while in other cases, little increase in input might give rise to a considerable amount of changes in the system. It could be concluded that the observed changes are not predictable and cannot be attributed to a definite reason. *Context* is an inseparable part of any system that helps understand the behavior and outcome of the system (Ushioda, 2015). Context encompasses the background factors prior to any interactions. Therefore, it can either confine or broaden the outcomes. Radford (2008) maintained that not only did outcomes and changes emerge within the context; they might be also adapted by contextual factors. As Dörnyei (2009) suggested, the mutual impact of individuals and environment help us understand the progression of a dynamic system. *Attractor state* deals with the certain level a system is intended to reach and settle down through self-organization (Papi & Hiver, 2020). Any dynamic system needs to reach

to the preferred states (attractor state) during the progression. In fact, learners settle down in their motivational levels over time (Hiver, 2015). Attractor states allow us to perceive how predictability and stability occur as the outcomes of complexity (Hiver, 2015). The nature of stability enables the results of the progression to become visible or tangible (Mercer, 2011).

L2 Motivational Self-System and Dynamic Systems Theory

Motivational Self-System model drew on self-theory or possible selves introduced by Markus and Nurius (1986). As Dörnyei (2005, p. 102) maintains, possible selves represent “individuals’ ideas of what they might become, what they would like to become, and what they are afraid of becoming”. The theory offers a broad construct consisting of three dimensions: *the ideal L2 self*; that is associated with the favorable self-image one seeks to get in the future, *the ought-to L2 self*; which reveals the attributes that individuals think they ought to have to meet their objectives and keep away from undesirable outcomes, and *L2 Learning Experience (L2LE)*; that focuses on the individuals’ experience, learning atmosphere, the influence of the instructor and/or peers, etc. Learners are constantly engaged in forward movement in the process of learning suggesting they are making progress consistent with the principles of self-discrepancy theory (Higgin, 1987). Learners’ motivation would potentially change in the course of time, however the progression of motivational development sounds to be specific to each individual (Papi & Hiver, 2020). In spite of these individual differences, scholars have recently taken interest in realizing the shared patterns of motivational development among different learners which are perceptible at a group level (e.g., Zheng et al., 2020; Peng, Jager, et al., 2022). Dörnyei (2005) emphasized that “possible L2 selves are “phenomenologically constructed” (p.86). Such construction process is dependent upon individuals’ varying capabilities to create lucid intellectual visions (Dörnyei & Chan, 2013) and their social challenges. As the learners find themselves in different circumstances, the capability to build a possible self is probable to change. This occurs due to contextual features and individuals’ differences. Lee and Ju (2021) examined motivational fluctuations of learners in South Korea. They investigated how competence beliefs influenced motivational development in the course of time and presented a holistic view of the development of multidimensional motivation. In

view of above, the trajectories of learners' L2 motivation as the focal point of the study were investigated in the present research.

Learners' Intended-Effort: Challenges and Problems

Motivated learning behavior is often assessed through intended effort, however; it suffers from two major problems. The first refers to the biased regulatory focus of the measure. Regulatory Focus Theory (Higgins, 1997) delineates two points: eagerness and vigilance strategies. L2 learners possessing the predominant promotion-focused inclination draw on an "eagerness" strategy to increase gains and reduce non-gains by making the most of every opportunity that may lead to positive outcomes. While L2 learners having the predominant prevention-focused inclination take a "vigilance" strategy to decrease losses and increase non-losses by keeping away from choices that may bring about negative consequences. The second problem of intended effort measures is their mostly hypothetical nature and, thereby, possible inapplicability to the current time. While some of the items of this measure referred to the actual motivated behavior (e.g., "I am working hard at learning English," Ryan, 2009), some other items assess time and energy L2 learners expend on language development (e.g., "I would like to spend lots of time studying English," Taguchi et al., 2009), which may not essentially be similar to the language behavior in reality (Sheppard et al., 1988).

These two problems have been partly accounted for the emergence of ought to and ideal L2 self as weak or strong predictors of motivated behavior (respectively) in most studies. Accordingly, in the present study, attempts have been made to avoid the aforementioned problems by using an improved measure of respondents' intended effort without any regulatory focus issues. Moreover, to address such gap in literature in line with Papi and Hiver's (2020) recommendations, the variable of intended effort has been used in the study to explain various motivational patterns in the ideal L2 self, ought-to L2 self, and L2 learning experience in both male/female Iranian EFL participants.

Proficiency Levels and Gender as the Moderating Variables

As already stated, several studies have been carried out on the links between varying proficiency and the motivation construct to-date. Gardner (1985)

demonstrated that learners having the integrative motivation are in higher proficiency levels comparing to those who have instrumental motivation. Tsuchiya (2006) examined motivational variances between low and high proficient learners. High proficient learners were reported to have external demotivating elements like classes, teachers, negative group attitudes, and obligatory essence of studying English while the low proficient learners were reported to have both internal and external factors like decreased self-confidence. Cho (2013) found that highly proficient learners had high degrees of motivation and less proficient learners were found to be less motivated. She found a positive correlation between the students' varying proficiency and the motivation so as the former predicted the latter.

The impact of gender on learners' motivation has been addressed in different studies as well. Previous studies highlight the great differences between the males/females' motivation. In majority of cases, female outperformed the males as reported by You et al. (2016) among others. Female students focused on interpersonal communication and had higher sense of empathy with others. They tried to imagine themselves in future L2 situations and thus could increase their motivation (Henry & Cliffordson, 2013). Yashima, et al., (2017) found a relatively big difference between men and women's motivation. Furthermore, several studies investigated the role of learners' gender from Dörnyei's (2009) Motivational Self System perspective. The findings on ideal L2 self provided contradictory evidence (Dörnyei, 2009). In the research examining the Japanese learners of English (Ryan, 2009) and Swedish L3 learners of German, French, and Spanish (Henry & Cliffordson, 2013), females were reported to have more vigorous views of themselves as successful learners than their male counterparts. Sylven and Thompson (2015); however, found no evidence of gender differences. They highlighted that language and context were more influential. There have been few studies examining distinctions between the ought-to L2 self and L2LE with respect to gender due to the construct validity and/or the operationalization problem as confirmed by Csizer and Kormos (2009). In this study, the proficiency level of participants as well as the gender were considered as the moderating variables accounting for their L2 motivational ups and downs during a semester of instruction.

Research Questions

As confirmed by Dörnyei et al., (2014), the issue of motivational dynamics needs further development. It is still questioned how motivation shall be treated and analyzed from a dynamic perspective. To address such gap empirically and determine how students' motivation might vary within a four-month-interval, the current research intended to inquire into the motivational fluctuations of Iranian EFL university students- as the main variables of the study- during an academic term with regard to their intended effort, gender, and proficiency levels. Based on Dörnyei's (2005) Motivational Self-System, the current study attempted to address the raised research questions:

RQ1. Is there any variability in participants' motivational construct during a semester of instruction at increasing L2 proficiency in male and female participants?

RQ2. Is there any variability in participants' motivated learning behavior (i.e., intended effort)

during a semester of instruction at increasing L2 proficiency in male and female participants?

RQ3. What is the interrelationship between motivational and behavioral trajectories that emerge out of male and female participants during a semester of instruction at increasing L2 proficiency?

Methodology

Participants

The sample consisted of 590 Iranian university students (251 female and 339 male students) with different majors, who were studying English for specific purpose (ESP) at IAU East Tehran Branch. Their age range was between 18 and 29 years old (their mean age was 23.54 (SD= 2.23)). Students' levels of language proficiency were different and ranged from beginner to upper intermediate as selected by an Oxford Placement Test (OPT) and administered by the researchers in the beginning of the study. Participants filled in the Motivation Factors Questionnaire. All the participants were requested to sign an ethics consent form. Table 1 outlines demographic characteristics of the participants:

Table 1*Demographic background of the participants*

No. of Students	590	
Gender	Males (339)	Females (251)
Beginner	70	65
Post Beginner	95	62
Lower intermediate	85	52
Intermediate	50	37
Upper intermediate	39	35
Proficiency Level	Beginner to upper-intermediate	
Native Language	Persian	
Major	ESP (Different Fields of Study)	
University	IAU	
Academic Year	2018-2019	

Instruments

To meet the purposes of the research, the researchers used the following research instrumentations:

Oxford Placement Test (OPT). To determine the students' levels of language proficiency, an OPT (version 1) was administered in the beginning of the study. This test is often used by researchers as the language proficiency test in which participants' scores are ranked according to the test norms from beginners to upper intermediate levels. The OPT consists of two parts with 60 items in the form of multiple-choice questions and cloze tests. The first part consists of 40 questions measuring learners' grammar knowledge and the second part consists of 20 questions assessing learners' vocabulary knowledge. The allocated time for this test was 60 minutes.

The Motivation Questionnaire. The **Motivational** Factors Questionnaire by Ryan (2009) along with some items of Taguchi, Magid, and Papi's (2009) questionnaire (see the appendix) were administered to participants, 30 items of questionnaire including items measuring the motivated behavior (i.e., learners' intended effort) and L2 Motivational Self System (i.e., ought-to L2 self, ideal L2

self, and L2LE), as the focus of the study, were analyzed. Parallel with Piniel and Csizer (2013), the researchers administered one questionnaire gaining advantage from its different parts to collect data on the motivational and behavioral components. A further practical consideration was to derive significant data and the need to administer a comprehensive survey that could “elicit maximum participation” (Ryan, 2009, P. 135). The questionnaire consisted of items in question and statement type measured by six-point Likert scales. The former items ranged from ‘not at all’ to ‘very much’, and the latter ranged from ‘strongly disagree’ to ‘strongly agree’ with 1 showing not at all/strongly disagree and 6 showing very much/strongly agree. The questionnaire went through multiple stages of translation (into Persian), back translation (to English), and piloting. Two EFL experts examined the consistency and accuracy of the translated copies, then it was administered to 55 students who were studying in the same university as the participants and were similar to them. Table 2 represents the main variables of the study, their reliability coefficients, and standard deviations.

Table 2

Cronbach's alpha measures and descriptive for the variables used

Variables	M	SD	α
Ideal L2 self	3.68	1.26	0.93
Ought to L2 Self	3.79	0.79	0.84
L2 Learning Experience	3.78	1.15	0.91
Intended effort	3.25	1.06	0.90

Procedure

The progression of students' motivational changes was estimated during the academic semester with one-month intervals. The students had adequate time to get familiar with instructor's personality and attitudes, classroom atmosphere, etc. during this time span. In fact, the questionnaire was once administered at the outset of the term, once at the end of it and twice with one month interval after the first and before the last administrations. The respondents were asked to answer the items unhurriedly at their convenience. They were also allowed to ask for clarifications when necessary. After this step, the data were entered into SPSS, then average scores were computed and subsequently line graphs and related tables were drawn

by to investigate the type and degree of change in participants' motivation and intended effort.

Data Analysis

The use of line graphs and tables enabled the researchers to depict the temporal variation and/or stability of the variables of the study. Learners' gender, proficiency levels, and motivated learning behaviors (i.e., intended effort) were also included in the analyses to systematically investigate their moderating effects on the main variables.

Results

Change and Variability in Participants' L2 Learning Experience (L2LE)

The findings demonstrate a considerable degree of variation in participants' motivation. Figure 1 summarizes the progression of participants' motivation with the subcomponent of L2 learning experience over a term (i.e., four months) with the data collected at one-month intervals. The key patterns observed show a steady decrease from a higher level (in the first month) to a moderately lower level (in the second month) followed by an increase (in the third month) and another decrease at the end of the semester. Such progression remains the same for varying proficiency from beginner to intermediate students. Regarding upper-intermediate students, the trend was different. It showed a steady decrease from a higher level to a moderately lower level followed by a decrease and then another decrease at the end of the term.

The fluctuations of beginner male students' L2 learning experience were more than their female counterparts. However, the post beginner male and female students showed similar variations. As far as lower intermediate and intermediate students were concerned, the female students indicated more variation comparing to that of their male peers. The upper intermediate male and female students' L2 learning experience fluctuations were close to each other. In essence, the progression of intergroup L2LE (i.e., students with different proficiency level) showed more variations comparing to that of intragroup. As displayed in Table 3, intergroup variations for example at the first row were statistically significant (2.36_a, 3.76_b, 4.26_c, 5.17_d, 5.34_d) while most of within group variations were not significant in spite of the meaningful trend and fluctuation observed in the progression. The initial

L2 learning experience of all the students was high in the beginning of the semester and even after the decline, it still increased and then at the end of the semester it decreased again and reached to a lower level. As was illustrated in Table 3, as the level of students' proficiency increased, their L2 learning experience increased as well.

Table 3

Mean score of learners' L2 learning experience (L2LE) based on gender & proficiency levels

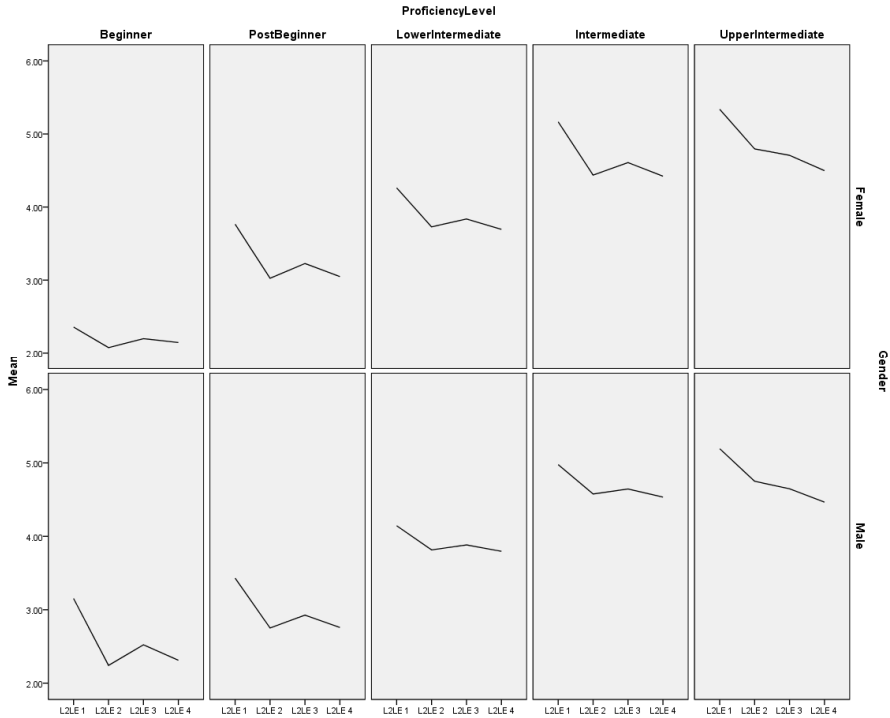
			Beginner	Post Beginner	Lower Intermediate	Intermediate	Upper Intermediate
			Mean	Mean	Mean	Mean	Mean
Gender	Female	L2LE 1	2.36 _a	3.76 _b	4.26 _c	5.17 _d	5.34 _d
		L2LE 2	2.08 _a	3.03 _b	3.73 _c	4.44 _d	4.80 _d
		L2LE 3	2.20 _a	3.23 _b	3.84 _c	4.61 _d	4.71 _d
		L2LE 4	2.15 _a	3.05 _b	3.69 _c	4.42 _d	4.50 _d
	Male	L2LE 1	3.15 _a	3.43 _a	4.14 _b	4.98 _c	5.19 _c
		L2LE 2	2.24 _a	2.75 _b	3.82 _c	4.58 _d	4.75 _d
		L2LE 3	2.52 _a	2.93 _b	3.88 _c	4.65 _d	4.65 _d
		L2LE 4	2.31 _a	2.76 _b	3.80 _c	4.53 _d	4.47 _d

Note 1: Values in the same row and subtable not sharing the same subscript are significantly different at $p < .05$ in the two-sided test of equality for column means. Cells with no subscript are not included in the test. Tests assume equal variances.

Note 2: Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

Figure 1

The progression of participants' L2 learning experience (L2LE) during a semester



Change and Variability in Participants' Ideal L2 self

Figure 2 illustrates variation in students' ideal L2 self during a semester. The key patterns observed indicate a steady decrease from a relatively higher level to a moderately lower level and then a moderate increase and finally a slight decline. However, the beginner female students' trajectory did not follow the general pattern in any case. Despite the minor fluctuations (see Figure 2), the beginner female students showed low degree of ideal L2 self till the end of the semester. However, the line graphs of post beginner and upper intermediate male and female students were quite close to each other and showed the similar trend. The fluctuations in the lower intermediate and intermediate female students' ideal L2 self are slightly more than their male counterparts.

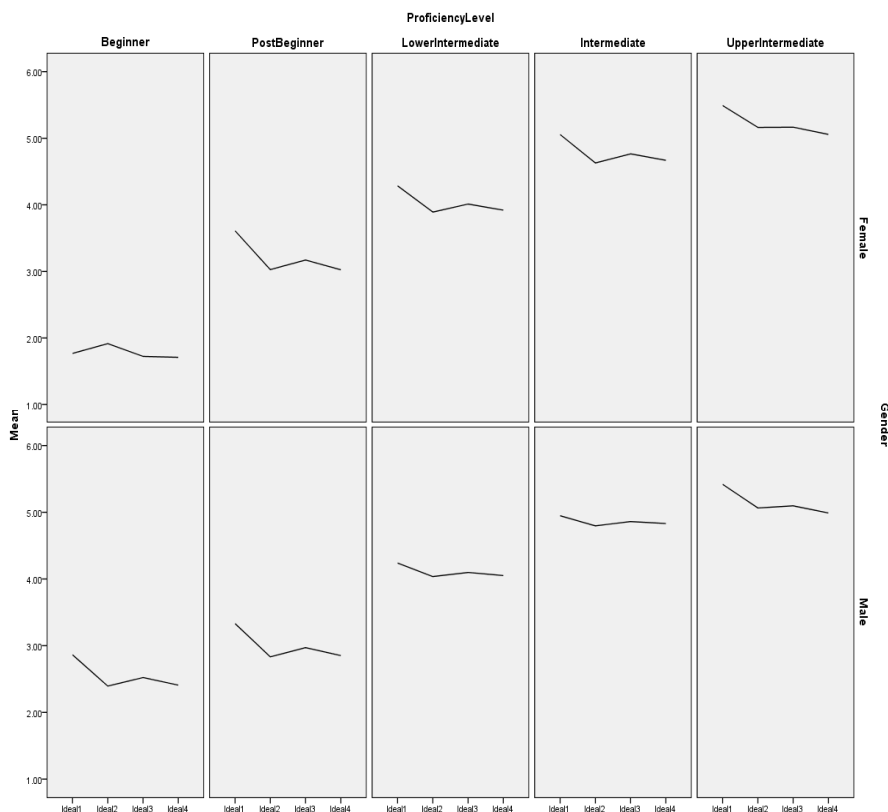
It is noteworthy that intergroup motivation (ideal L2 self) showed more variations comparing to that of intragroup. As illustrated in Table 4, intergroup

variations for example at the first row were statistically significant (1.77_a → 3.61_b → 4.29_c → 5.06_d → 5.49_d) while most of within group variations were not significant in spite of the meaningful trend and fluctuation observed in the progression. As indicated in Table 4, as the level of participants' proficiency increased, their ideal L2 self increased as well.

Table 4

Mean score of learners' ideal L2 self based on gender & proficiency levels

		Beginner	Post Beginner	Lower Intermediate	Intermediate	Upper Intermediate	
		Mean	Mean	Mean	Mean	Mean	
Gender	Female	Ideal1	1.77 _a	3.61 _b	4.29 _c	5.06 _d	5.49 _d
		Ideal2	1.91 _a	3.03 _b	3.89 _c	4.63 _d	5.16 _d
		Ideal3	1.72 _a	3.17 _b	4.01 _c	4.77 _d	5.17 _d
		Ideal4	1.71 _a	3.02 _b	3.92 _c	4.67 _d	5.06 _d
	Male	Ideal1	2.86 _a	3.33 _b	4.24 _c	4.95 _d	5.42 _d
		Ideal2	2.39 _a	2.83 _b	4.04 _c	4.80 _d	5.06 _d
		Ideal3	2.52 _a	2.97 _b	4.10 _c	4.86 _d	5.10 _d
		Ideal4	2.41 _a	2.85 _b	4.05 _c	4.83 _d	4.99 _d

Figure 2*The progression of participants' ideal L2 self during a semester****Change and Variability in Participants' Ought-To L2 self***

The analyses revealed noticeable degree of variability in students' ought-to L2 self. Figure 3 represents the trajectory of students' ought-to L2 self in comparison with their male/female peers at each proficiency level. The pattern of female beginner students' motivation showed a considerable decrease from a relatively higher level to a moderately lower level and then a modest increase and finally a very small decline at the end of the term. The trajectory of male beginner students decreased in the second month and then increased fairly in the third month and remained unchanged till the end of the term.

The trajectory of post beginner female students displayed that the students' ought-to L2 self decreased in the first month and actually increased in the second month and then there was a negligible decline at the end of the semester. The

progression of post beginner male students indicated a slight decrease followed by a gradual increase and another small increase at the end of the semester.

The progression of students' ought-to L2 self in lower intermediate female students showed a small decrease in the first month followed by a moderate increase in the second month and a slight decline at the end of the semester. However, such progression is quite different for low intermediate male students. They were rather motivated in the first month and then there was a modest increase in the second month and another slight increase at the end of the semester.

The trajectory in intermediate female students displayed a decrease from a relatively higher level to a moderately lower level in the first month with an increase in the second month and a small final increase at the end of the semester. The motivational development of intermediate male students remained the same within the first month with a small increase at the second month and a very slight increase at the end of the semester.

The motivational development of the upper intermediate female students displayed a significant decrease from a relatively higher level to a moderately lower level with a small increase followed with a small final decline. The upper intermediate male students showed a small decrease in the first month followed by a small increase in the second month and another modest increase at the end of the semester.

It sounds that intergroup motivation (ought-to L2 self) showed more variations comparing to that of intragroup. As illustrated in Table 5, intergroup variations for example at the first row were statistically significant (2.53_a → 3.54_b → 3.88_b → 4.47_c → 5.11_d) while most of within group variations were not significant in spite of the meaningful trend and fluctuation observed in the progression. As demonstrated in Table 5, it can be inferred that as the level of students' proficiency increased, their ought-to L2 self increased as well.

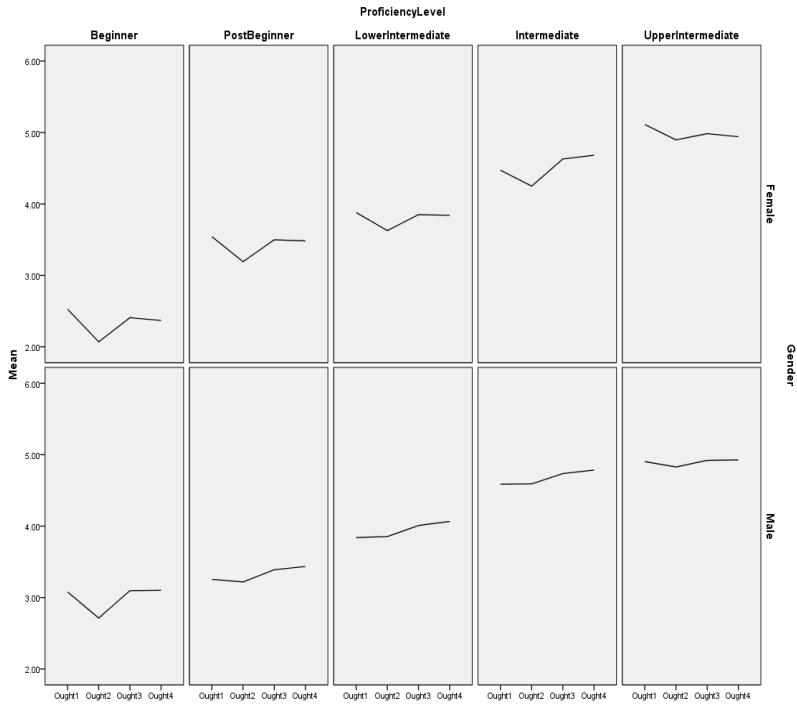
Table 5

Mean score of learners' ought-to L2 self based on gender & proficiency levels

		Beginner	Post Beginner	Lower Intermediate	Intermediate	Upper Intermediate	
		Mean	Mean	Mean	Mean	Mean	
Gender	Female	Ought1	2.53 _a	3.54 _b	3.88 _b	4.47 _c	5.11 _d
		Ought2	2.07 _a	3.19 _b	3.63 _c	4.25 _d	4.90 _e
		Ought3	2.41 _a	3.50 _b	3.85 _c	4.63 _d	4.98 _d
		Ought4	2.37 _a	3.48 _b	3.84 _c	4.68 _d	4.94 _d
	Male	Ought1	3.08 _a	3.25 _a	3.84 _b	4.59 _c	4.90 _c
		Ought2	2.71 _a	3.22 _b	3.85 _c	4.59 _d	4.83 _d
		Ought3	3.10 _a	3.39 _a	4.01 _b	4.74 _c	4.92 _c
		Ought4	3.10 _a	3.43 _a	4.07 _b	4.79 _c	4.93 _c

Figure 3

The progression of participants' ought-to L2 self during a semester



Change and Variability in Participants' Motivated Learning Behavior (Intended Effort)

As figure 4 displayed, the female beginner students' intended effort showed a steady decrease and then a moderate increase and finally a small decrease at the end of the semester. The trajectory of male beginner students showed the similar pattern with more considerable decrease at the first month and a relatively big increase at the second month and finally a negligible decrease at the end of the term.

The female post beginner students' intended effort decreased in the first month considerably and increased in the second month moderately and then increased slightly till the end of the semester. The trajectory was quite the same in post beginner male students till the second month and then remained unchanged till the end of the term.

The progression of students' intended effort in lower intermediate female students showed a large decrease in the first month followed by a moderate increase in the second month and a small increase at the end of the semester. The progression is quite the same for lower intermediate male students.

The trajectory in intermediate female students displayed a large decrease from a relatively higher level to a moderately lower level in the first month with a big increase in the second month and then no change till the end of the semester. The intermediate male students indicated the same pattern till the end of the second month and then followed by a slight decline at the end of the semester. The upper intermediate female students' intended effort displayed a big decrease from a relatively higher level to a lower level with a large increase followed with a negligible decrease at the end of the semester. The progression is the same in upper intermediate male students all over the semester.

It can be assumed that students' intended effort showed more variation between different proficiency groups comparing to that of within group variations. As represented in Table 6, intergroup variations for example at the first row were statistically significant ($1.91_a \rightarrow 3.54_b \rightarrow 3.91_c \rightarrow 4.82_d \rightarrow 5.46_e$) while most of within group variations (excluding upper intermediate male students' variations) were not significant in spite of the meaningful trend and fluctuation observed in the progression. As demonstrated in Table 6, it can be figured out that as the level of students' proficiency increased, their intended efforts increased as well.

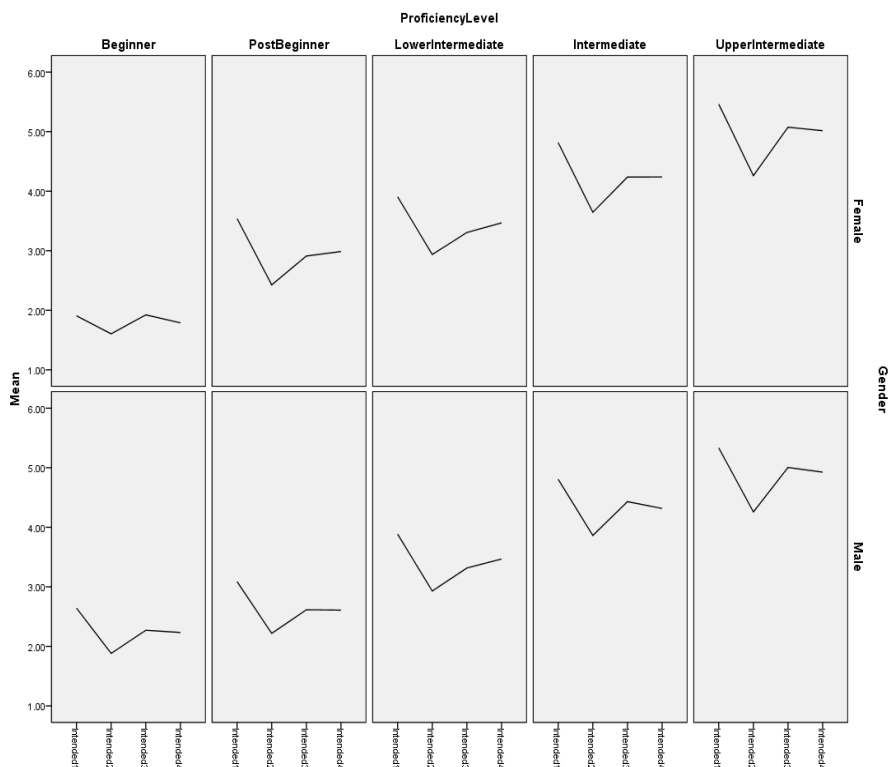
Table 6

Mean score of learners' intended effort based on gender & proficiency levels

		Beginner	Post Beginner	Lower Intermediate	Intermediate	Upper Intermediate	
		Mean	Mean	Mean	Mean	Mean	
Gender	Female	Intended1	1.91 _a	3.54 _b	3.91 _c	4.82 _d	5.46 _e
		Intended2	1.60 _a	2.43 _b	2.94 _c	3.65 _d	4.26 _e
		Intended3	1.92 _a	2.91 _b	3.31 _c	4.24 _d	5.07 _e
		Intended4	1.79 _a	2.99 _b	3.47 _c	4.24 _d	5.01 _e
	Male	Intended1	2.64 _a	3.09 _b	3.89 _c	4.81 _d	5.34 _d
		Intended2	1.88 _a	2.22 _b	2.93 _c	3.86 _d	4.26 _d
		Intended3	2.27 _a	2.61 _b	3.32 _c	4.43 _d	5.00 _e
		Intended4	2.23 _a	2.61 _b	3.47 _c	4.32 _d	4.93 _e

Figure 4

The progression of participants' intended effort during a semester



Interrelationships between Participants' Motivational and Behavioral Trajectories

The research question 3 inquired whether any interrelationships exist between participants' motivational and behavioral trajectories during a semester of instruction at increasing L2 proficiency. The analyses revealed several meaningful interrelationships between measures of L2 motivational constructs and participants' motivated learning behavior. Figures 5 and 6 visually show interrelationships at monthly intervals between L2 motivation and motivated learning behavior. Lines are color-coded to differentiate between the variables of the study. As can be visibly discerned in the diagrams, the following interrelationships emerged; 1) there is a positive relationship between ideal L2 self and motivated learning behavior in almost all proficiency levels. Nevertheless, such relationship is reverse for beginner female students, 2) there is a positive relationship between ought-to L2 self and motivated learning behavior except for intermediate male and upper intermediate students (both male and female). The trajectories of these students' intended effort is somehow considerable, while their ought-to L2 self's progression is quite smooth and remains unchanged till the end of the semester, 3) there is a positive relationship between L2 learning experience and motivated learning behavior at the beginning of the semester. However, such relationship turns negative at the fourth month. The pattern is somehow different for upper intermediate male and female students; there is a positive relationship in the first month, while the relationship turns over from that point. In other words, L2 learning experience possessing a decreasing progression and its trajectories are somehow negligible whereas the ebbs and flows of participants' motivated learning behavior are both different and considerable till the end of the semester.

Regarding the cases when there is a violation in the common emerged trend between students with varying proficiency, it is noteworthy to mention the initial condition is quite influential and contributes to the trajectory of the system. For example, when the trend of ideal L2 self and motivated learning behavior is inverse for the beginner female students, it could be explained by the initial motivational level with which the students entered the classroom. Indeed, the events prior to an instructional semester may have impacted the learners' initial motivation, and therefore the emerged behavior during the semester. Further, the warm up activities introduced by the teacher, specific strategies used to keep students' attention, and

the character of the teacher herself all may have been influential for the beginner female students. Regarding the intermediate and upper intermediate students who did not follow the trend, it should be stated that since “the ought-to L2 self is external to the students and deals with duties and obligations imposed by friends, parents, and other authoritative figures, it does not lend itself to the emerged motivational pattern” (Dörnyei, 2009, p. 32). It seems the upper level students would care more about their own ideals and aspirations rather than their friends/family’s. Lastly, we should keep in mind even in cases where some powerful regulating forces are at play, it might not have a good influence on all the students in a similar way confirming the principle of non-linearity of DST. As Waninge et al., (2014) highlight “the most motivated students may lose their interest after half an hour and therefore would be in need of a motivational boost, while a student who generally seems to be unmotivated can suddenly become engaged in a new task” (p.719). Therefore, different factors may assist shape students’ overall L2 motivation during the semester.

Figure 5

The interrelationships between participants’ motivational and behavioral trajectories

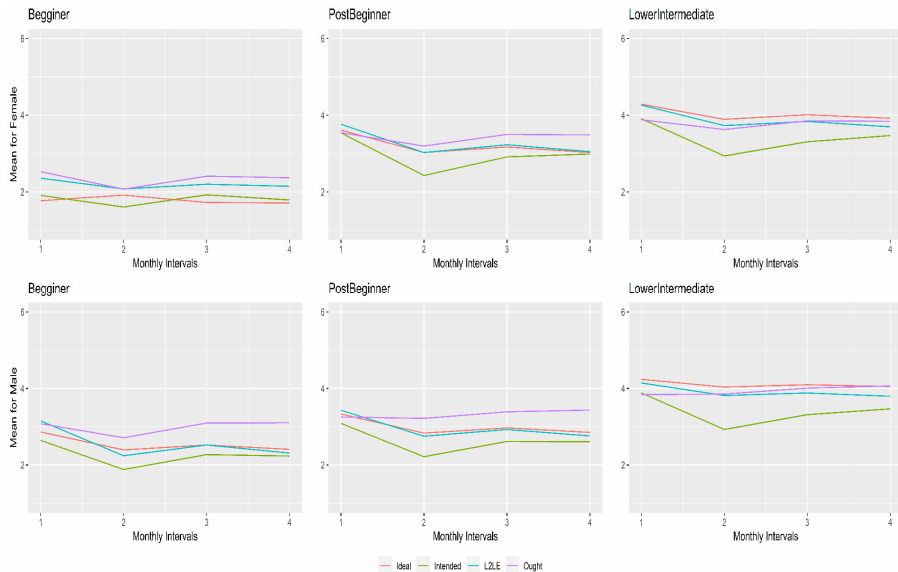
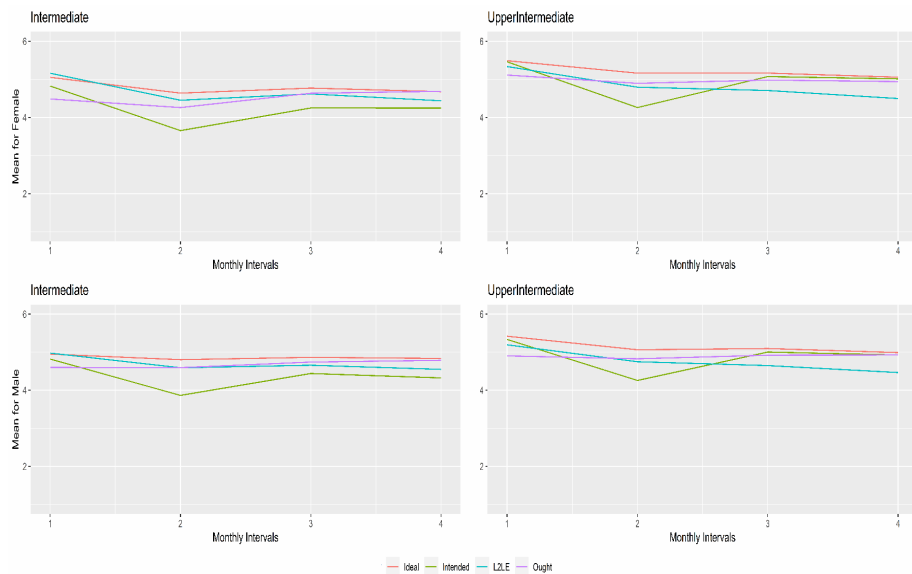


Figure 6

The interrelationships between participants' motivational and behavioral trajectories



Discussion

The present study attempted to explore the dynamic patterns of changes and their outcomes on male and female students' motivation and behavior at different proficiency levels over a semester. In addition to data on L2 Motivational Self-System (i.e., ideal L2 self, ought-to L2 self, and L2LE toward L2 leaning), students' motivated learning behavior (intended effort) was also obtained from Ryan's (2009) Motivational Factors Questionnaire. These data were analyzed to recognize the students' motivational trajectories as the main point of the research at each proficiency level. As findings revealed, there was a noticeable degree of variability in students' motivation and behavior. As far as the first main variable (i.e., L2 learning experience) is concerned, the results reveal when the level of male and female students' L2LE decreases in most of the levels (three levels out of five) of language proficiency, their intended effort decrease as well in the first month. As the level of students' L2LE increases, their intended effort also increases in the second month. While the level of students' L2LE decreases, their level of intended effort decreases in the third month as well. These findings confirm the fact that there is a

direct relationship between male and female students' L2 learning experience and their intended effort. The outcomes that L2 learning experience and intended effort are positively correlated are in conformity with the results of previous studies (e.g., Dörnyei et al., 2006; Lamb, 2012; MacIntyre & Serroul, 2015).

Regarding the second main variable (i.e., ideal L2 self), the data indicate that when the level of male and female students' ideal L2 self decreases in most of the levels (three levels out of five) of language proficiency, intended effort decrease as well in the first month. As the level of students' ideal L2 self increases, their intended effort also goes up in the second month. While the level of students' ideal L2 self descends, their intended effort falls down in the third month as well. These findings show a direct link between male and female students' ideal L2 self and their intended effort. The outcomes that students' ideal L2 self and intended effort are directly related to each other are in line with the results of some previous research (e.g., Dörnyei et al., 2006; Lamb, 2012; MacIntyre & Serroul, 2015). With respect to the third main variable (i.e., ought-to L2 self), the findings showed no significant correlations between this variable and students' intended effort in either way (positive or negative).

The findings indicated that the motivation and behavior subsystems underlying the L2 development function hand in hand forming part of the learner's internal system (van Geert, 1995). Moreover, "fluctuating relationships among subsystems show that the correlation between cause and effect can be negligible at one point in time, or in one particular context, but substantial at others" (Ellis & Larsen-Freeman, 2006, p. 563). The findings are consistent with common belief in L2 motivation research that ideal L2 self is usually treated as the primary source of motivation in learning process (Al-Hoorie, 2018; Hiver & Al-Hoorie, 2019). Nevertheless, the outcomes run counter to the Papi and Teimouri's (2012) findings, who found ought-to L2 self as the robust component accounting for students' behavior.

Further, the analysis of the line graphs along with the tables revealed the fact that variations were not always random or unpredictable. In fact, three main features of dynamic system including change, stability, and context put forward by Waninge et al., (2014) helped demonstrate the position of the system at one-month intervals. In sum, in line with DST perspective, the self can be viewed as a

multifaceted concept consisting of cognitive and affective features. Its stability and changeability can be conceptualized by means of dynamic system theory. As findings revealed, the dynamic development concerns the way internal and external attributes interact with each other giving rise to emergent changes.

Conclusions

The goal of the current research was to examine how motivation and motivated learning behavior as the most salient variables of the study might change and interact with respect to moderating role of gender and proficiency level. To the end, the researchers evaluated the motivational and behavioral development of students at one month intervals during an academic semester. The results proved the learners' motivational and behavioral patterns were exposed to fluctuations over the semester of instruction. Moreover, it was found that variation was not uniform throughout the term implying that motivation and behavior changed in different ways. The analyses of line graphs indicated noticeable variations among the motivational components. In essence, where the L2 learning experience and ought-to L2 self were exposed to variations, the ideal L2 self and motivated learning behavior remained stable or showed negligible changes for highly proficient learners (i.e., intermediate and upper intermediate students). It highlights that the advanced learners might possess a strong, internalized view of themselves in the future, however this perception could not totally protect them from external pressures, assumptions and negative outcomes. Furthermore, in many of the proficiency levels studied, the trajectory of students did not match with any of the other students' trends in different proficiency levels. It was best demonstrated by the case that the female beginner students indicated a steady increase in their motivation whereas their male peers experienced a decrease in their motivation. The findings also showed the cases when all the students reacted in a similar manner.

Apart from the contextual factors that influence students' motivational trajectories, there are some other factors that are hard to identify including students' moods in the class, their peace of minds, their general interest to the subject matter, etc. Identifying all those factors can be a useful means for instructors to promote and keep students' motivation all throughout the semester. Teachers are recommended to give enough attention to classroom activities and do their best to

draw every student's attention in the beginning of the term before starting to teach the instructional materials. It seems that dynamic system theory provides a helpful tool for inspecting the classroom events thoroughly. It is noteworthy that students' motivational development is not a stable trait: even the students with highest degree of motivation may lose their enthusiasm to the class activities and learning materials by an inappropriate reaction of the teachers for example.

The researchers of the study took one month intervals into account. Shorter time span is suggested for future studies. The scope of the study was limited to the data obtained solely from the motivational questionnaire. Other methods of data collection and/or different types of participants are suggested for future studies to assure the validity of the research. Examining classroom interactions between teacher and learners and/or learners and peers is also recommended as they might influence the students' motivation to some degree.

The findings of the study would make significant contributions to the literature with respect to dynamics of L2 Motivational Self-System. By providing a holistic view of learners' internal factors, this study would enable us to recognize interactive operation of some components that function as integrated part of wholes and can be treated as influential attractors (Dörnyei, 2010). This can help understand novel patterns of emergent language behavior (Larsen-Freeman & Cameron, 2008). The study makes us recast our appreciation about cause and effect relationships and question our conceptions about the end state. Presumably, the main contribution of the study is that it emphasizes the research without the assumptions of an ultimate and definite answer.

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APPENDIX

ITEMS AND VARIABLES USED IN THE MFQ

Ideal L2 Self

The things I want to do in the future require me to speak English.

Whenever I think of my future career, I imagine myself being able to use English.

I often imagine myself as someone who is able to speak English.

If my dreams come true, I will use English effectively in the future.

I can imagine speaking English with international friends.

When I think about my future, it is important that I use English.

Ought-to L2 self

I study English because close friends of mine think it is important.

I have to study English, because, if I do not study it, I think my parents will be disappointed with me.

Learning English is necessary because people surrounding me expect me to do so.

My parents believe that I must study English to be an educated person.

I consider learning English important because the people I respect think that I should do it.

Studying English is important to me in order to gain the approval of my Peers/teachers/family/boss.

It will have a negative impact on my life if I don't learn English.

Studying English is important to me because an educated person is supposed to be able to speak

English.

Studying English is important to me because other people will respect me more if I have a

knowledge of English.

If I fail to learn English, I'll be letting other people down.

L2 Learning Experience

Do you like English?

Learning English is really great.

I really enjoy learning English.

I'm always looking forward to my English classes.

I find learning English really interesting.

Learning English is one of the most important aspects in my life.

Motivated Learning Behavior

I am working hard at learning English.

It is extremely important for me to learn English.

If an English course was offered in the future, I would like to take it.

When I hear an English song on the radio, I listen carefully and try to understand all the words.

I can honestly say that I am really doing my best to learn English.

If I could have access to English-speaking TV stations, I would try to watch them often.

I am the kind of person who makes great efforts to learn English.

If English were not taught in school, I would try to go to English classes somewhere else.