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**Directed Motivational Currents:
The Implementation of the Dynamic Web-Based
Persian Scale among Iranian EFL Learners**

Afsaneh Ghanizadeh *	Safoura Jahedizadeh
Assistant Professor	PhD Student
Imam Reza International University	Ferdowsi University of Mashhad
a.ghanizadeh@imamreza.ac.ir	jahedi.s1310@gmail.com

Abstract

Directed motivational current (DMC)– as a novel strand in L2 motivational field–is a robust motivational drive fueled by a highly valued goal and capable of stimulating and sustaining long-term behavior. The present study explored English as a foreign language students' Directed Motivational Currents by validating the dynamic web-based Persian version of the scale, finding the most crucial motivational currents, and exploring its association with students' proficiency and educational levels. This is accomplished by translating the DMC Disposition Scale (Muir, 2016) which measures two facets of *easy flow* and *challenge* through twelve items as the first step and utilizing the validated questionnaire to explore the most significant motivational currents of students by analyzing students' responses on open-ended items of the questionnaire (qualitative phase) and finding the association between DMC and proficiency level as well as DMC and educational level (the quantitative phase) as the second step. The results of reliability estimates and confirmatory factor analysis (CFA) demonstrated acceptable reliability and validity indices of the Persian version of DMC Disposition Scale. The results also indicated that most of the DMCs experienced by students were *competitively self-referenced experiences* rather than *competitively other-referenced* objectives. Moreover, a significant difference was observed between elementary and upper-intermediate proficiency levels of students regarding DMC with upper-intermediate learners experiencing more levels of motivational currents than the elementary counterparts. BA and MA students of English were found to experience more levels of DMCs than diploma learners. The most significant cases in the qualitative phase as well as the discussion on both parts are presented.

Keywords: directed motivational currents, mixed-methods approach, confirmatory factor analysis

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* Corresponding author

The social perspective of L2 motivation research is traceable back to Robert Gardner and Wallace Lambert's publication of a seminal 1959 article *Motivational Variables in Second Language Acquisition*. This paper established that most research concerning second language research has investigated the notion of linguistic aptitude as an explanation of language achievement. However, validity coefficients lead to other contributing variables, such as; motivation and interest which are probably involved in language success (Carroll, 1958; Dun El, 1948; Henmon, 1929; Symonds, 1929; Todd, 1929). In other words, their study offered a new perspective towards L2 motivation and separated language teaching field from other subject matter teaching areas by presenting the field as ostensibly distinct from the mainstream motivation research in educational psychology and defining the new perspective as the existence of a social group of users of the subject content. Particularly, the results of completing a battery of verbal intelligence, linguistic aptitude, and various motivational characteristics by 43 male and 32 female Montreal high school students of French yielded orthogonal variables closely related to achievement which implied that the maximum prediction of second language success was obtained from intensity of motivation to learn the other language and learners' purposes in studying the language. Another key finding of their study was introducing the two types of motivation, i.e., integrative and instrumental motivation in which the former is concerned with the utilitarian value of language achievement and the latter is characterized by one being interested in other cultural community to the point that is accepted as a member of the target group (Anisfeld & Lambert, 1964; Gardner, 1960, 1985; Gardner & Lambert, 1972; Lambert, Gardner, Barik & Tunstall, 1963). The notion of integrative motivation has then become one of the most researched notions in the field of second language motivation as a key variable (e.g. Clément, Dörnyei & Noels, 1994; Clément & Kruidenier, 1985; Csizér & Dörnyei, 2005; Dörnyei, 1990; Gardner, 2012; Gardner, Day, & MacIntyre, 1992; Gardner & MacIntyre, 1991; Hernández, 2006; Noels & Samure, 2014; Shaaban & Ghaith, 2000; McEown). Empirical data has

also tended to support the fact that integrative motivation affects behavior and achievement more than instrumental motivation (e.g. Gardner, Masgoret, Tennant & Mihic, 2004; Masgoret & Gardner, 2003; McEown, Noels & Samure, 2014). However, other studies have demonstrated that instrumental motivation plays a key role in the context of foreign language learning (e.g. Belmechri & Hummel, 1998; Dörnyei, 1990; Gardner & MacIntyre, 1991; Kraemer, 1993; Lukmani, 1972; Warden & Lin, 2000).

Thirty years after the publication of Gardner and Lambert's paper in 1959, the field of motivation was recognized as a key component in second language learning; and integrative motivation has contributed significantly to the motivational field (Gardner, 2001, 2010). Such powerful perspectives guided the compass for the direction of motivation research up until the early 1990s which was labelled the social-psychological period (Dörnyei & Ushioda, 2011) and it was not until this decade that a new research direction began to emerge. Consequently, from early on, the notion of motivation has been used to explain different types of behavior (e.g., drives connected to survival and basic biological needs). On the other hand, behavior is motivated by the desire or need to reach particular goals (e.g., avoidance of punishment, recognition, and promotion). In other words, motivation guides and energizes behavior towards achieving a particular outcome (Sansone & Harackiewicz, 2000). Motivation is said to be used to describe the forces acting on or within individuals to direct behavior and the concept can be used to explain diversities in the intensity of a particular behavior (i.e., more intense behavior is the result of higher levels of motivation) and also to direct the behavior (Gibson, Ivancevich, & Donnelly, 2000). Moreover, motivation is intentional and directional in which the former refers to the persistence of actions and personal choices and the latter implies that there is a driving force to attain a specific goal (Nel, Gerber, Van Dyk, Haasbroek, Schultz, Sono, & Werner, 2001; Hosseini, Ghonsooly, Ghanizadeh, 2017). In line with the previous definitions, motivation as a key resource in L2 learning was believed to encompass all other factors

involved in L2 learning (Rostami, Ghanizadeh, & Ghonsooly, 2015). Motivation as a theoretical construct underlies origins of individuals' actions, desires, and needs. In other words, this notion is used to explain a process which commences, directs, and sustains goal-oriented treatments.

Various models and theories have been suggested to address the notion of L2 motivation. Dornyei's process model, for instance, comprises three stages: 1) preactional stage, 2) actional stage, and 3) postactional stage. The first stage is concerned with the claim that the selection of motivation is associated with a selection of the type of task or goal in which motivation is generated. The second stage states that the generated motivation should be maintained during the process of achieving the specific goal or task and the last stage proposes that learners select their future tasks and goals based upon their motivational retrospection. In other words, learners determine future tasks according to the success or failure of completing the task during the actional stage. In a similar vein, the Expectancy-Value Theory (Wigfield & Eccles, 2000) suggests that learners select tasks based on the perceived success.

The Self-Determination Theory also addresses intrinsic and extrinsic motivation and examines motivation, perceived locus of causality, motivation regulatory styles, and relevant regulatory processes all of which are related to self-determined and non-self-determined behaviors (Ryan & Deci, 2000). This theory highlights the difference between amotivation (i.e., not valuing an activity, not being fully competent to do it, or not expecting it to reach a desired outcome which can be attributed to either internal or external reasons), extrinsic motivation (the activity performance in which the purpose is to attain some external or separable outcome) and intrinsic motivation (regulated by external, integrated, interjected, and identified styles with the locus of causality ranging from external to internal, respectively and can be defined as a notion which is non-self-determined and impersonally regulated. Intrinsic motivation can also be defined as a natural inclination towards mastery, assimilation, exploration, and spontaneous interest and is an essential component to

cognitive and social development which represents a source of enjoyment. Intrinsic motivation is viewed in terms of conditions that can sustain as opposed to subdue this characteristic and is internally motivated and the locus of causality is internal.

In addition to these differences, the regulation of both intrinsic and extrinsic motivation is self-determined which implies that internal regulation can be adjusted by satisfaction, interest, and enjoyment and external regulation is externally regulated by external rewards and punishments. In a similar way, the Cognitive Evaluation Theory examines the fundamental competence and autonomy needs and suggests that social-contextual actions affect intrinsic motivation (Smith, 2009). Regarding student self-worth in relation to learner motivation, Covington (1984) in his Theory of Self-Worth of Achievement Motivation suggests that learners need to protect their perceptions of self-worth and ability which shape an integral variable in this theory. Furthermore, there is always a conflict between teachers and students and the learners' ability which is a critical component of success. Therefore, the concept of student beliefs of ability is a contributing factor to self-determination and student inability can be the main factor of failure.

The dismal facet of motivation is also known as demotivation. As Dörnyei (2001) stated, de-motivation can be expressed as "specific external forces that reduce or diminish the motivational basis of behavioural intention or an on-going action" (p.143). It is a dynamic resultant of a variety of forces (Dörnyei, 2005). The process of learning a foreign language comprises several factors such as textbook, teachers, learners, materials, facilities, teaching methodologies, which can affect students' degree of motivation in different stages of EFL learning (Ghanizadeh & Jahedizadeh, 2015; Jahedizadeh, Ghanizadeh, & Ghonsooly, 2016).

Having been studied from different perspectives, the notion of L2 motivation has now faced a new concept called a Directed Motivational Current (DMC) which is described as an intense motivational drive supporting and stimulating long term behavior such as, foreign/ second

language learning (Dörnyei, Muir, & Ibrahim, 2014). Directed motivational currents have recently emerged as an extension of the vision concept (Dörnyei, Ibrahim & Muir, 2015; Dörnyei, Muir & Ibrahim, 2014; Henry, Davydenko & Dörnyei, 2015; Ibrahim, 2016; Muir & Dörnyei, 2013). A DMC represents the perfect match between the accompanying action and the vision which is capable of bolstering energy rather than absorbing it (Muir, 2016). In other words, DMCs capture the vision power and then transfer it into sustained momentum in which individuals perform at over and above levels of their normal capacities. In effect, DMCs are unique within the field of L2 motivation and “have the capacity to align the diverse factors that are simultaneously at work in a complex system, thereby acting as a regulatory force” (Dörnyei, Henry, & Muir, 2016, p. 96).

To have a tangible grasp of DMC, the following examples might conceptualize a picture of the intention behind DMCs. Imagine a student who would like to pass the entrance exam in order to enter the university (In Iran students usually cannot study at university without passing the required examination). This student might follow his regular schedule in the past; hanging out with friends, watching television, playing computer games, or reading books in his leisure time, but the ultimate goal of studying at one of the best universities changes all his life. He gives up the activities he used to do and starts to spend the whole time studying the required lessons day and night. His friends, family, and relatives realize that he has changed drastically as if the previous person has disappeared and a new character has emerged. The same story is also true about a language learner who intends to learn English for a specific purpose in a limited period of time, i.e. getting a profession, going abroad, being able to grasp the foreigners and foreign books, magazines, etc. The routines are not there anymore. Even the person supposes himself as another one who is under the control of a power and should obey the orders to succeed. Each of these scenarios represents an intense motivational drive which impacts individuals and unfolds over time. In other words, the participants featuring such experiences achieve more

than they expected towards a personal goal (Dörnyei, Muir, & Ibrahim, 2014).

Literature Review

The notion of DMC has recently been incorporated into educational psychology by Muir and Dörnyei (2013). Studies on DMC although scant in number attempted to scrutinize it from various dimensions. Muir and Dörnyei (2013), for instance, discussed current understandings of vision and Directed Motivational Currents, and then analyzed the way by which they may be incorporated to doing about effective motivational pathways in language learning contexts. They described vision as

the mental representation of the sensory experience of a future goal state (involving imagination and imagery), is currently at the forefront of motivational innovation, and in recent years it has been seen increasingly more often in the motivational tool kit of practicing language teachers (p. 357).

They have also proposed a Directed Motivational Current as a new motivational construct which is capable of integrating many current theoretical strands with vision and energizing long-term, sustained behavior (such as language learning).

Another recent study was carried out in order to introduce the new concept in L2 motivational theories and described a DMC as a conceptual framework involving positive emotionality, salient facilitative structure, reinforcement of feedback loops, and accessibility of a new level of operation (Dörnyei, Muir, & Ibrahim, 2014). In a similar vein, Dörnyei, Ibrahim, and Muir (2015) ameliorated DMC prior definitions by stating so: “A DMC is a potent motivational surge that emerges from the alignment of a number of personal, temporal and contextual factors/parameters, creating momentum to pursue an individually defined future goal/vision that is personally significant and emotionally satisfying” (p. 103). They also asserted that DMCs have been used to transform individuals, groups and situations that lacked a clear future

vision or have lost their ‘zest’, by offering a pathway of intensive motivated action. (Dörnyei, Ibrahim & Muir, 2015).

The first systematic empirical investigation of DMCs was conducted by Dörnyei and his colleagues (Henry, Davydenko, & Dörnyei, 2015) and focused on periods of unusually intense and enduring motivation which migrant learners of Swedish as a second language may experience. In other words, the purpose of this interview-based study was to examine whether the core characteristics of DMCs could be identified in participants’ descriptions of sustained motivated behavior. The findings revealed that motivated behavior was characterized by features similar to those proposed by Dörnyei and his colleagues (Dörnyei, Ibrahim, & Muir, 2015; Dörnyei, Muir, & Ibrahim, 2014; Muir & Dörnyei, 2013), i.e. the presence of the direction of motivated behavior toward long-term identity investment goals, a salient facilitative structure, and the generation of positive emotionality (Henry, Davydenko, & Dörnyei, 2015).

In an attempt to operationalized DMC, Muir (2016) designed the DMC Disposition Scale and then utilized it to study *the dynamics of intense long-term motivation in language learning* among L2 learners with different nationalities. Her findings supported the contention that DMCs varied with contextual factors. The main purpose of this study is to take the initiative to delve into Iranian EFL learners’ Directed Motivational Currents by validating the Persian version of the scale in the Iranian EFL context, finding the most crucial motivational currents, and exploring its association with student proficiency and educational levels. This is accomplished by translating the DMC Disposition Scale (Muir, 2016) which measures two facets of *easy flow* and *challenge* through twelve items as the first step and utilizing the validated questionnaire to explore the most significant motivational currents of students by analyzing students’ responses on open-ended items of the questionnaire (qualitative phase) and finding the association between DMC and proficiency level as well as DMC and educational level (the quantitative phase) as the second step. Viewed from a broader perspective, the present

study examines and interprets the various kinds of intense motivation experienced by EFL students and investigates its relationship with two demographic variables within a single framework by applying a mixed methods approach. The results are expected to pave the way for proposing a baseline for Iranian EFL learners' Directed Motivational Currents.

To attain the goals of present research, the following research questions were posed:

- 1) Is the Persian version of DMC scale a reliable and valid tool in our Iranian context?
- 2) What is the DMC profile of Iranian EFL learners?
- 3) Is there any significant relationship between Iranian EFL learners' DMC and their proficiency level?
- 4) Is there any significant relationship between Iranian EFL learners' DMC and their educational level?

Method

Participants

The participants of the present study comprised 320 EFL students selected according to convenience sampling among EFL learners studying English in universities and language institutes in Mashhad, a city in Iran. The profile of the students is as follows: Their ages varied from 16 to 49 years old (mean = 24, standard deviation = 6.77). Out of 320 students, 34 held diploma degree, 168 had a Bachelor of Arts (BA) degree or were BA students, and 118 held a Master of Arts (MA) degree or were MA students. As far as proficiency level is concerned, 22 were elementary, 30 pre-intermediate, 118 intermediate, 126 upper-intermediate, and 24 advanced students. Female participants numbered 252, while 68 were male.

Instruments

To determine student Directed Motivational Currents, the study employed the Persian version of the DMC Disposition Questionnaire

designed and validated by Muir (2016) and translated into Persian by the researchers. The DMC Disposition Questionnaire which is a dynamic online scale consists of a number of items and questions among which 12 statements pose easy flow (8 items) and challenge (4 items) facets of DMC via a 5-point Likert type response format (completely disagree, disagree, to some extent agree, agree, and completely agree). The results were intended to identify three key issues: 1) the proportion of people who have experienced DMCs, 2) The individuals who have experienced DMCs, and 3) the characteristics of their experience regarding DMC (the duration and reason for beginning, etc.).

The questionnaire comprises three main sections:

- 1) It describes DMCs by offering five sentences which are representative of the DMC experience (e.g. *'I think about this project day and night – I feel like it's taken over my life!'*), and asks participants to tick if they have experienced it. When the answer is YES, the 12 main questions related to specific durations and triggers appear.
- 2) The main body of the questionnaire comprises a series of 12 statements measuring intense motivation, such as *'During this time I was able to work more productively than I usually can'* and *'When looking back now, I have very good memories of this time'*. This section also includes questions asking whether participants would like to encounter this type of intense motivation again, and whether they have observed such periods of amplified motivation in people around them.
- 3) The final section asks for participants' demographic information.

Moreover, several open-ended questions were included to create rich additional information and allow participants to elaborate on their DMC experiences (Muir, 2016).

- 1) *Would you mind writing a few sentences about how this intense period of motivation began?*
- 2) *Would you mind telling us briefly why [you would/would not like to experience this type of intense motivation again]?*

3) *If YES [you have seen this type of intense motivation in other people], please think of one memorable example and write a few short sentences about what happened. Thank you!*

The first question was presented in Section One, and questions two and three were asked in the main body of the questionnaire in Section Two.

The DMC Disposition Scale was demonstrated to have strong internal consistency (Cronbach's Alpha = .84).

Data Collection

The way by which the participants were supposed to answer the DMC Disposition Questionnaire was totally different from the traditional pen and paper data collection. In effect, the DMC Scale was designed in an online format for the ease of administration and data collection. The participants were provided with the web address of the questionnaire. Having entered the password, they could access the scale which was designed in 10 pages. Due to the dynamic nature of the DMC Disposition Questionnaire, the items were displayed according to the responses to the previous questions. For instance, the main twelve questions appeared on the condition that the participants had responded the item: "how many times have you experienced this intense motivation"? appropriately. On the other hand, if the participant selected the 'never' option, the following questions would not appear on the screen.

Moreover, the questionnaire did not necessitate any explanation presented by the researchers; however, some examples were added to the original questionnaire in order to clarify important points. Consequently, a brief explanation with tangible examples were provided for the participants since the notion of DMC is a newly born concept which requires concrete instances in order to be grasped by all the participants.

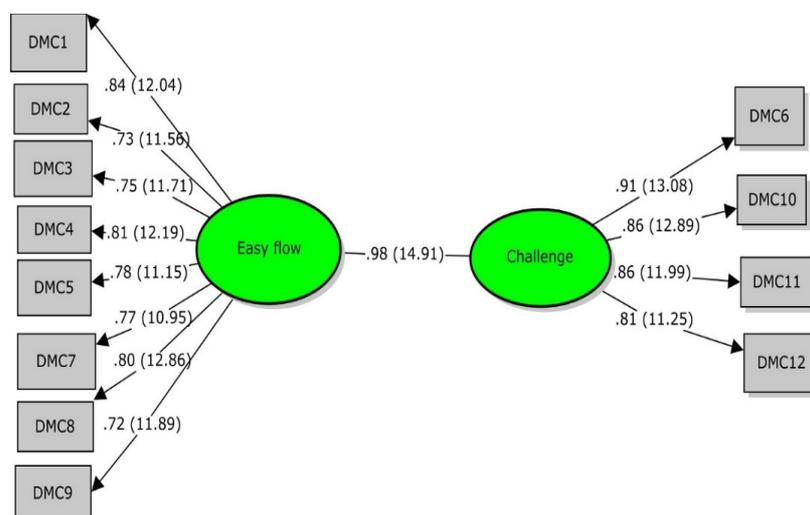
In order to ensure all the questions are obvious enough, one of the researcher's phone number was presented so that the participants could contact her whenever necessary. Due to the nature of data collection procedure the participants were not forced to answer the questionnaire

within a particular time. The questionnaire was also accessible on a wide variety of mobile phones, tablets, and computers which took around 15 minutes to be completed. Moreover, to receive reliable data, a page on the questionnaire assured them that their responses would be kept confidential. They were also required to provide demographic information such as gender, age, proficiency and educational level. As an incentive, the participants were given the opportunity to receive feedback about their performance on the instrument if they wanted.

Results

Quantitative Phase

The first phase of the present study comprised an array of different steps to validate the translated version of the DMC Disposition Questionnaire. The translated questionnaire was then administered to 320 EFL students. To determine the validity of the scale, which addresses the first research question of this study, a confirmatory factor analysis (CFA) utilizing the LISREL 8.50 statistical package was performed. The model consisted of two facets, namely, easy flow (8 items) and challenge (4 items). A number of fit indices were examined to evaluate the model fit: the chi square/df ratio which should be lower than 2 or 3, the Normed Fit Index (NFI), the Comparative Fit Index (CFI), and the Good Fit Index (GFI) with the cut value greater than .90, and the Root Mean Square Error of Approximation (RMSEA) of about .06 or .08 (Schreiber, Amaury, Stage, Barlow, & King, 2006). The structural model is presented in Figure 1. As indicated in Figure 1, the Chi-square/df ratio (2.10), the RMSEA (0.06) and the NFI=.90, CFI=.91, and GFI= .90. All reached the acceptable fit thresholds. Overall, it can be concluded that the proposed model had a good fit with the empirical data.



$\chi^2= 223.45$, $df= 106$, $RMSEA= 0.06$, $CFI=0.91$, $GFI=0.90$, $NFI=0.90$

Figure 1. The schematic representation of the two facets of DMC and the corresponding items

To ensure if each item had a good factor loading, t and β values were examined. The indices on the lines display the standardized estimates and t values, respectively. Standardized coefficient (β) shows the factor loading of each item with respect to the corresponding factor. The closer the magnitude to 1.0, the greater the factor loading of the item and the higher the correlation is. Moreover, the magnitude of lower than 0.30 is a sign of weak factor loading in which the item must be modified or omitted. The t -value higher than 2 is an indication of statistical significance. As the figure demonstrates, all items had accepted factor loadings. The Cronbach's alpha estimate for both groups of items was found to be 0.98 regarding 12 items.

The second research question was concerned with the DMC profile of Iranian EFL learners both quantitatively and qualitatively. Table 1 presents descriptive statistics of DMC among the participants. As the Table indicates, the mean score is 41.06 and the maximum score is 60.00.

Table 1

Descriptive Statistics of DMC

	N	Range	Minimum	Maximum	Mean	Std. Deviation
DMC	320	60.00	.00	60.00	41.06	15.34

Based on the DMC scores, the participants were categorized into two groups: the first group comprises participants who have experienced such intense motivation with different levels and the second one involves participants without any experience of DMC. Table 2 indicates the frequency and percentage of DMC scores in each group. As it can be seen, 286 participants (90%) out of 320 belonged to DMC group and 34 participants (10%) did not possess any DMC.

Table 2

Frequency and Percentage of DMC

Valid	DMC	Frequency	Percent	Valid Percent	Cumulative Percent
	DMC	286	89.4	89.4	89.4
	No DMC	34	10.6	10.6	10.6
	Total	320	100.0	100.0	

The following Bar graph delineates the above findings (Figure 2).

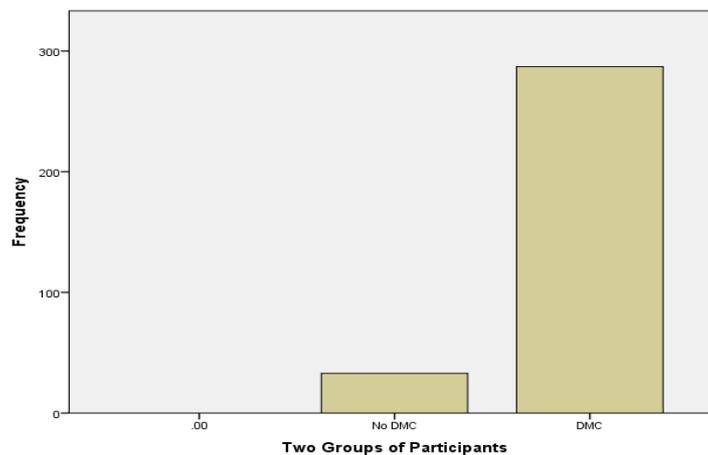


Figure 2. The frequency and percentage of DMC groups.

Table 3 presents descriptive statistics of DMC across four proficiency levels comprising: elementary, pre-intermediate, intermediate, upper-intermediate, and advanced. As the Table indicates, the mean score is 41.06 and the maximum score is 60.00.

Table 3
Descriptive Statistics of DMC across Proficiency Levels

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Elementary	22	32.27	20.68	4.41	.00	50.00
Pre-intermediate	30	39.60	16.20	2.95	.00	54.00
Intermediate	118	40.91	15.12	1.39	.00	60.00
Upper-intermediate	126	43.42	12.84	1.14	.00	60.00
Advanced	24	39.33	19.31	3.94	.00	60.00
Total	320	41.06	15.34	.85	.00	60.00

Regarding the third research question concerning the role of proficiency level in DMC, an *ANOVA* was run. Table 4 represents the results of *ANOVA* for determining DMC differences among the four proficiency levels. As can be seen, there are significant differences in DMC across the four proficiency levels ($F= 2.760, p<0.05$).

Table 4
The Results of One-Way ANOVA for Determining DMC Differences among the Proficiency Levels

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2543.58	4	635.89	2.760	.028
Within Groups	72564.90	315	230.36		
Total	75108.48	319			

The *ANOVA* analysis revealed that among the four proficiency groups, there is a difference somewhere among the means ($F= 2.76, p<0.05$). To locate the exact place of differences, a *post-hoc* comparison

of the means was run for the four dimensions. In so doing, a Scheffe's test was utilized. Table 4 displays the results of Scheffe's test.

Table 4
The Scheffe's Test for Determining the Location of DMC Difference across the Proficiency Levels

(I) proficiency	(J) proficiency	Mean Difference (I-J)	Std. Error	Sig.
elementary	pre-intermediate	-7.32	4.26	.56
	intermediate	-8.64	3.52	.20
	upper-intermediate	-11.15*	3.50	.04
	advanced	-7.06	4.47	.64
pre-intermediate	elementary	7.32	4.26	.56
	intermediate	-1.31	3.10	.99
	upper-intermediate	-3.82	3.08	.81
	advanced	.26	4.15	1.00
intermediate	elementary	8.64	3.52	.20
	pre-intermediate	1.31	3.10	.99
	upper-intermediate	-2.51	1.94	.79
	advanced	1.58	3.39	.99
upper-intermediate	elementary	11.15*	3.50	.04
	pre-intermediate	3.82	3.08	.81
	intermediate	2.51	1.94	.79
	advanced	4.09	3.38	.83
advanced	elementary	7.06	4.47	.64
	pre-intermediate	-.26	4.15	1.00
	intermediate	-1.58	3.39	.99
	upper-intermediate	-4.09	3.38	.83

The results of the post hoc Scheffe's test revealed that, at the level of 0.05, there was a significant difference in DMC scores of elementary and upper-intermediate students (mean difference= 11.15, sig=.041).

Taking the last research question into account, an ANOVA was applied to the data to examine whether DMC differs across participants with different educational levels (diploma, BA, MA), Descriptive statistics of DMC across the three groups indicated that MA group enjoyed the highest level of DMC followed by BA group.

Table 5
Descriptive Statistics of DMC across Educational Levels

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Diploma	34	37.35	5.04	.86	38.00	55.00
BA	168	42.13	17.09	1.31	.00	60.00
MA	118	45.01	14.13	1.30	.00	60.00
Total	320	44.06	15.34	.85	.00	60.00

Table 6
The Results of One-Way ANOVA for Determining DMC Differences among the Educational Levels

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2079.63	2	1039.81	4.51	.012
Within Groups	73028.85	317	230.37		
Total	75108.48	319			

The results of ANOVA showed significant differences in DMC of the participants with different educational level ($F = 4.51$, $p < .05$). To determine the exact place of differences, a *post-hoc* comparison of the means was run for the three dimensions. Table 7 displays the results of Scheffe's test.

Table 7
The Scheffe's Test for Determining the Location of DMC Difference across the Educational Levels

(I) educational level	(J) educational level	Mean Difference (I-J)	Std. Error	Sig.
Diploma	BA	-3.78*	2.85	.050
	MA	-7.66*	2.95	.017
BA	diploma	3.78*	2.85	.050
	MA	-2.88	1.82	.287
MA	diploma	7.66*	2.95	.017
	BA	2.88	1.82	.287

As Table 7 reveals, there are significant differences between diploma and BA participants, between diploma and MA learners, but not between BA and MA learners.

Qualitative Phase

In the qualitative phase of the study, the researchers applied content analysis to provide a framework concerning participants' responses to answer the second question qualitatively. Two open-ended questions were provided from which the former required the participants to describe their specific experience regarding DMC and the latter to explain whether they tend to experience such a motivational current again. They were also asked to provide reasons. Scrutinizing all possible responses, four main categories emerged. The name of each classification was then given to each of them. In other words, participants who have experienced or were experiencing Directed Motivational Currents and participants without DMC were classified and eventually four groups (competitively other-referenced experiences, competitively self-referenced experiences, ambiguous experiences, and absence of DMC experience) were distinguished according to their specific goals.

Table 8 indicates the frequency and percentage of DMC scores in each group (group 1: competitively other-referenced experiences, group 2: competitively self-referenced experiences, group 3: ambiguous experiences, and group 4: absence of DMC). As can be seen, 76 participants (24%) out of 320 belonged to competitively other-referenced experiences group, 100 participants (31%) belonged to competitively self-referenced experiences group, 106 participants (33%) belonged to ambiguous experiences group, and 38 participants (12%) belonged to absence of experiences group.

Table 8

Frequency and Percentage of Each Group of Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Group 1	76	23.8	23.8	23.8
	Group 2	100	31.3	31.3	55.0
	Group 3	106	33.1	33.1	88.1
	Group 4	38	11.9	11.9	100.0
	Total	320	100.0	100.0	

The following Bar graph illustrates the above findings (Figure 3).

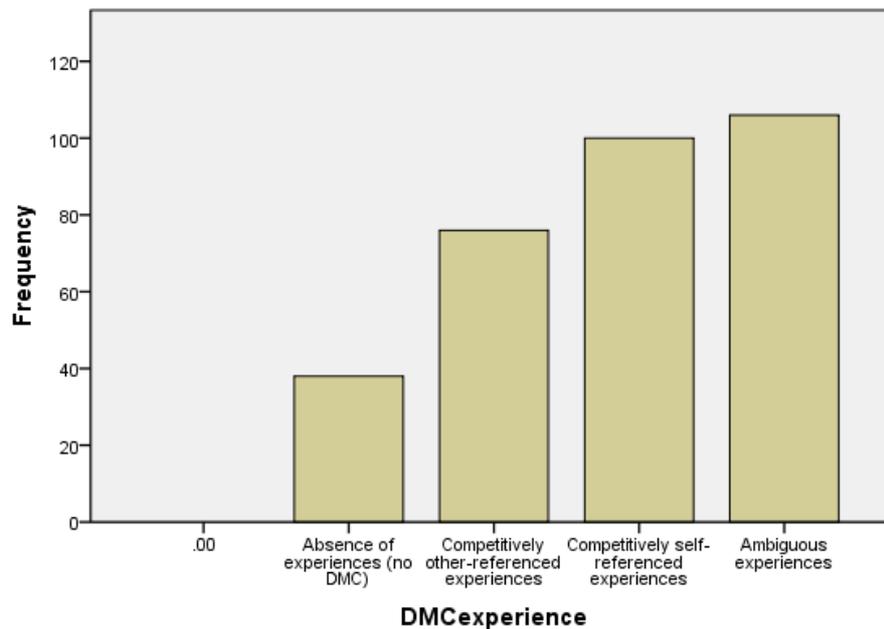


Figure 3. The frequency and percentage of the four groups.

The above categorization was obtained in response to the following questions:

1. Would you mind writing a few sentences about how this intense period of motivation began?
2. Would you like to experience this type of intense motivation again? Why or why not?

In the followings, the descriptions of each group are presented and then the responses extracted from participants with the highest scores on each DMC group are provided. The participants provided their responses in Persian which were then translated to English.

1. Competitively other-referenced experiences: Participants in this categorization experienced DMC to reach a specific objective related to others. To put it differently, students of this group tend to compete with other people and somehow struggle with them to achieve their goal (as mentioned earlier, the following examples are selected to represent the participants experiencing higher DMCs). In the present study most of the protocols were in response to taking part in BA, MA, or PhD Entrance Exams that are all norm-referenced tests focusing on highlighting achievement differences among students to produce a rank order.

“I had experienced such an intense motivation when I was studying for MA entrance exam. I tried day and night but... but I didn't succeed that time and lost my motivation totally. I even didn't want to continue my studies! Then ... getting familiar with one of the best professors at university, I started to recover from a very disappointing circumstance. I started to learn from my failures and compete with my rivals in PhD entrance exam. I couldn't stop attempting to reach my goal. It was as if I wanted to revenge from all the stuff and staff because of my previous failure. And finally finally I succeeded. I couldn't believe my eyes when I saw my name among the students who have passed the exam successfully...!!!!. Now when I remember those days I cannot believe that it was me who didn't give up and it is as if I was another person those days. Yeah... that was exactly intense motivation which controlled my whole behavior.

Now I wish to experience it as soon as possible, since there are still many things I want to achieve and such an intense motivation causes me to make possible all impossibilities! And I'm sure without having that motivation I couldn't succeed.”

2. Competitively self-referenced experiences: Participants in this categorization experienced DMC to reach a specific objective not related to others but to themselves. In other words, individuals in this group tend to compete with themselves rather than other people and try to act better than before to achieve their goals.

“Good old days... I wanted to go abroad in order to continue my education and then find a job related to my major. From the moment I decided to do so, something strange happened to me. Believe it or not, I didn't have any place to live or any money to afford my usual life. One of my best friends accommodated his office and provided food for me!!! Sometimes I carried passengers with his car to earn some money. Sitting in front of the computer in the morning, I even didn't realize that it's the time to sleep, since I was busy with my research. Another important issue was my English which I was supposed to improve as soon as possible to pass TOEFL. So, I bought relevant materials and studied them!!! Now... I live in Finland and just enjoy my life. I have visited other countries in Christmas too, such as London and Germany!... When I think about those days I think something enchanted me which I couldn't think about anything else!!!! It was a terribly difficult and exhausting experience but at the same time enjoyable!!!

For sure I tend to experience it again, since it made me a person who does not give up even in the most difficult situations. It was not just the motivation, but something quite different ... a very intense drive which made me a successful person.”

3. Ambiguous experiences: Some participants in this categorization explained something which was considered as experiencing DMC in their own points of view but after scrutinizing their responses, the researchers found that they were just experiencing motivation to do a particular task, but not an intense motivation related to DMC. Some of them also did not answer obviously and hesitated to explain the whole experience. Consequently, as their responses were vague they were categorized in

this group. Put it in other words, the participants in this group were mistakenly considering their motivation as DMC which was simply the state of motivation.

“ I had a very high motivation and continuous effort. Moreover, I was optimistic regarding the outcomes of my performance and enjoyed the time allocation to this specific goal. The best moments were the time when I got that I succeeded and after then I tried to apply it to other aspects of my life. Yes, I want to experience it again, because it was good.”

4. Absence of experiences (no DMC): As the name suggests, this group of participants did not express any DMC-associated experience.

Discussion and Conclusions

The present study aimed at validating the web-based Persian version of the Directed Motivational Currents (DMCs) questionnaire and investigating its relationship with student proficiency and educational levels. The quantitative phase sought to identify the most motivational currents of EFL students by analyzing and categorizing their open-ended responses on DMC Disposition Scale. The results demonstrated that there was a significant difference between elementary and upper-intermediate proficiency levels of students regarding DMC with upper-intermediate learners experiencing more levels of motivational currents than the elementary counterparts. The notion of proficiency is a complex issue and even “the most privileged second language learners take a significant amount of time to attain mastery, especially for the level of language required for school success” (Hakuta, 2000, p. 1). Usually, scores on various traditional language tests, such as Comprehensive English Language Test (CELT), Michigan Test of English Language Proficiency (MTELP), or Test of English as a Foreign Language (TOEFL) are used to measure student proficiency which is defined by performance on these tests and have their own adherents and opponents (Carroll, 1972, 1980; Cervenka, 1978; Dulay, Burt, & Krashen, 1982; Farhady, 1983; Graham,

1987; Hanania & Shikhani, 1986). However, each of these tests are designed for specific purposes which should be considered in determining learners' levels of proficiency. In the present study, participants' proficiency levels were determined by their own responses and were self-reported based on the proficiency test they took at the time of experiencing DMC. The fact that more exposure to English language provides more domains for encouraging motivation is undeniable. Besides, students who have gained high levels of proficiency are more motivated than learners with low levels of proficiency (Wimolmas, 2013). Similarly, the concept of DMC can also be attributed to such findings, even though the two concepts are not the same.

It was also found that there was a significant difference between diploma and BA students as well as diploma and MA participants concerning DMC. In other words, both BA and MA groups of learners experienced more motivational currents than their diploma counterparts. As mentioned earlier, exposure to English learning conditions leads to higher levels of motivation. That's the case with students' educational levels. Hence, the concepts of motivation or sometimes demotivation are highly associated with high educational levels (Igun, 2010; Jahedizadeh & Ghanizadeh, 2015). BA and MA learners had already been motivated enough to continue their studies on English. Consequently, they had more chances to face DMC than their diploma counterparts.

In the qualitative phase of the study, the majority of responses were related to competitively self-referenced experiences than other-referenced ones; however, the number of students who had experienced DMC to compete with others were not rare in number in which the latter mostly comprised taking part in BA, MA, or PhD Entrance Exams bring all norm-referenced tests focusing on highlighting achievement differences among students to produce a rank order (Anastasi, 1988; Stiggins, 1994).

In sum, the findings of this study put forward the prospect of developing a multifaceted vision of the concept of DMC and its association with students' demographic variables and other cognitive

factors. As Henry, Davydenko, and Dörnyei, (2015) contended, Directed Motivational Currents would be uniquely different from other types of motivated behavior and engagement. The researchers of the present study highlighted the direct and indirect role of Directed Motivational Currents in giving rise to student success by presenting both quantitative and qualitative data. This finding in turn can have decisive implications for SLA research, in general, and EFL student learning, in particular. It should, in the first place, inform both teachers and students of the beneficial role of DMCs and facilitate effective learning and teaching process. Teachers should see themselves liable for pinpointing students' interests and provide the opportunities to raise student motivation which is higher than their perceptions. One of the best ways to help them is assigning projects in which students are interested. In this way, they can get familiar with their strengths and weaknesses, talents, and proceeding tendencies.

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